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CHINA'S BREAK WITH GERMANY

A Readjustment of Political Forces Making for Stable Government Effected

Extraordinary Prophecy of Boxer Massacre of Foreigners

The long anticipation of China's severance of relations with Germany robbed the actual event of great interest. The move was definitely settled upon early in March, Premier Tuan's temporary abandonment of his office, after his dispute with the President, only delayed it, and after his return the former likelihood of the breach became a certainty which scarcely any domestic or international event could have altered.

Much more interesting and much more important to Chinese are the internal political evolutions which have been going on since the note of protest which China despatched to Germany on the 9th of February was first suggested. Whatever benefits or ills descend upon the Republic as a result of her imitation of the United States in her dealings with the Central Powers, the discussion of the subject has done more to pull the Chinese Government together, to set Parliament seriously thinking, to bring harmony into the Cabinet, to quiet petty political bickerings, and to settle definitely the balance of power between President, Cabinet, and Parliament, than any event since the establishment of the Republic. It has also served to prompt the professional Treaty Port politicians to an advertisement of their opinions, which in this instance places them in a most unfavorable light with the Central Government, and serves to alienate whatever foreign sympathy they have hitherto enjoyed. Certainly the Chinese have no reason to regret their adventure into international affairs since it has brought them indirectly the most business-like government which they have enjoyed for some years.

The control of the political situation in Peking has passed out of the hands of the radical political parties in the last six months and would appear to be firmly under the hand of Tuan Chi-jui, Premier and Minister of War, and the recognized leader of the Peiyang party, which is made up of conservatives, militarists, and moderates. In the same way, leadership in the discussions which have led up to the severance of relations with Germany passed, in a month, from the initiative and control of the Young China element in Government and Parliament, into the hands of Tuan Chi-jui and his colleagues; and together with the leadership in this particular diplomatic step have gone the majority of the members of the various radical groups, formerly bitter opponents of Tuan Chi-jui and his policies, now his staunch supporters in foreign policy at least.

This apparent desertion of the majority of the Kuomintang office holders to the colours of the Northern party, leaves politicians like Dr. Sun Yat-sen and Tang Shao-yi like feudal barons without followings. Their titles, dignities, medals, and standing with the government, since Yuan Shih-kai's death, have been tributes to their influence with the Southerners, and the members of radical parties of Southern inception in Parliament and government offices. Since this following has chosen, as a result of what seems to have been serious and sincere deliberation, to support the Premier and to help him crystallize a foreign policy, since they have abandoned chronic obstructionism, their former leaders are left well nigh party-less, consequently powerless, and therefore inclined to resentment. The result of this is the telegraphic campaign which Sun Yat-sen, Tang Shao-yi, and Wen Tsung-yao, supported by such ilk as Li Lieh-chun and Sun Hung-yi, have initiated in opposition to China's established policy towards Germany.

When the Premier left the President's office on Sunday, March 4, sent in his resignation and took train to Tientsin, the despairing coterie of his opponents, who had seen 12 out of the 14 parties in Parliament go to his support, and had discovered that he had such a big majority in Parliament on his side that he could afford to shape his policies and draw up his mandates with the assurance of Parliamentary backing, rejoiced greatly and announced that the autocratic Tuan, enemy of democracy and atavistic reactionist in all things, had gone to his political doom. They and their journals even began to choose a successor for him and exulted over the political chaos that the election of a new Prime Minister and a new Cabinet would introduce into government circles. But Premier Tuan was gone just two days. During his brief sojourn in Tientsin he had the satisfaction of receiving unnumbered envoys from the President asking him to return. The leaders of every faction in Parliament, speakers, senators, advisers, and diplomatists, went down to Tientsin in platoons, and at last on Tuesday went the Vice-President himself, Baron Feng Kuo-chang, with written concessions from the President, which definitely fixed the power of the Premier and the Cabinet to the Premier's satisfaction, and brought him back to Peking in something like triumph and with a following of dignitaries and politicians which would have done credit to an Emperor. From the hour of his return there was no further doubt of China's foreign policy. It was understood clearly that the President and Premier had disagreed over the advisability of announcing to the Provinces and to China's diplomatic agents abroad the coming breach with Germany, and as the President had promised to support Tuan Chi-jui's policy, as a condition to his return to office, the promulgation of a formal severance of relations with Germany became only a matter of time.

The question was, of course, submitted to Parliament. Constitutionally this was not necessary, but to prove to his critics that he was not over-riding the "sacred representatives" of the

Chinese people, the Premier took the matter before Parliament himself and had the satisfaction of seeing it passed through both houses. The Tsan Yi Yuan cast 150 votes in favor of a severance of relations, and the Chung Yi Yuan passed the measure by a vote of 331 to 87. The little minority was largely made up of the radical members of the Kuomintang, who are either faithful to their old leaders or disciples of the Sun Hung-yi cult. The sanction of all departments of the Government had therefore been given to the policy of breaking with Germany by Sunday, March 11, and during the following days there was nothing to do but quietly draw up the requisite documents and abide by the convention of notifying the Provinces, Ministers abroad, and the people, all of whom were well aware of the trend of affairs. The actual announcement of a severance of relations on March 14 therefore excited no comment.

The most interesting feature of this whole series of events is the remarkable growth of Tuan Chi-jui's power, and the most hopeful feature is the cheerfulness with which all political factions have put aside their prejudices and have supported instead of embarrassing him. Of Parliament foreign observers in particular are hastening to speak all praise in atonement for the scathing satire and ridicule which they have heaped upon that unhappy body in the past. Community of purpose and co-ordination in the working out of this delicate international problem have given the Chinese government a rare sense of independence and confidence, and in all quarters this confidence has inspired respect.

Next in point of domestic interest to the firm establishment of the Premier's wide influence, is the diversion created by Dr. Sun Yat-sen and his Shanghai colleagues. Just prior to Parliament's vote upon the question of a breach with Germany, Dr. Sun wired to Mr. Lloyd George, British Prime Minister, protesting against China being "coerced" by the Allies to go into the war, and prophesying troubles in China similar to the Boxer outrages. This message to Great Britain was followed closely by a similar telegram to the Peking government. This in turn was supported by confirmatory messages from Tang Shao-yi and Wen Tsung-yao. Foreigners were inclined to resent somewhat Dr. Sun's assertion that China had been coerced by the Allies, and went to some pains to prove him wrong in editorials and letters to various journals, but the talk of dissention and revolt in China as a result of an action upon which the representatives of all political schools in Peking had agreed, seemed absurd. But the Central Government, being Chinese, seems to have read into this Chinese prophesy of trouble something which foreign commentators have for the most part missed. They take Dr. Sun to mean that if China persists in her present course and makes common cause with the Allies, he either knows where trouble will be made or he will make it. The fact that other medal-decked promoters of promiscuous rebellions have allowed their minds to run in the same channels is still more suspicious, even though it confirms nothing. At all events, the Peking Government took steps as soon as it had received Dr. Sun's message to put the Yangtsze Valley under martial law at the first budding of disorder, and is said to have prepared mandates ordering the removal of the various friends of the Sun Yat-sen faction from offices in the South, which will be promulgated when deemed expedient.

As is quite well known, Dr. Sun and his friends believe in pan-Asianism. They would unite under one aegis Japan, China, India, and any other Oriental countries which could be useful in such an alliance. Japan would be the leader and China would naturally come under Japanese tutelage. Dr. Sun sees nothing calamitous in this prospect. China's close affiliation with any Occidental Power in any enterprise is therefore a setback to the best laid plans of Dr. Sun and his Japanese friends. In the light of their own interests they see malicious interference in any Chinese foreign policy which retards Japan's Koreanization of China. This, coupled with his loss of a following in Peking government circles, accounts for Dr. Sun's telegram, and also for the reverberation of his message by Tang Shao-yi and Wen Tsung-yao. By way of making his appeal to both the British and Chinese Governments more forceful Dr. Sun prophesies Boxerism, and many Chinese choose to believe that he is threatening Boxerism.

The charge of coercion falls pretty flat before a detailed account of the negotiations which have taken place between the Allied Ministers in Peking and the Chinese Government. Apart from informal visits to and fro, there was only one exchange of formal documents between the Allied Ministers and the Chinese Government bearing upon this question, and the Chinese made the first move by preferring a request through Liu Tseng-hsiang for three rather modest concessions, to which the Allies replied in a noncommital paragraph of French* which did little more than acknowledge receipt of the communication. China's foremost interest in severing relations with Germany—with a probability of entering the war later—is to obtain a footing which will give her a voice in the eventual disposition of Kiaochow and the other German concessions in Shantung which Japan is now holding and making very much her own. For this reason, probably more than for any other, the Allies have kept rather aloof and were willing enough for China to follow America's course. To bring China into the war and to give her a fair deal, it would be necessary to enter into delicate diplomatic negotiations with Japan, negotiations with a view to loosening that nation's hold upon something which she had already got, which is not pleasant work at best and is especially awkward in the middle of a European war.

The Japanese attitude throughout the past month has been difficult of appraisement. They said quite frankly at first that they did not want China mixed up in this war because they feared it might endanger their "special interests"—some journals were still franker and specified Shantung. Then in the latter part of February they let it be known to the Chinese Government that they would be glad to see China join America or the Allies in any course if the inviolability of their "special interests" was guaranteed by China and the European members of the Entente. This meant very little, as China's chief end in alienating Germany was to win a position from which those "special interests" could be peaceably violated. Still later despatches from Tokio announced that Japan had come to an understanding with the other members of the Entente which was thoroughly pleasing to Japan. This was not good news for Chinese readers, but as the Chinese Government continued to wax more enthusiastic about the possibility of a breach with Germany as time went on, and as Premier Tuan announced before Parliament that Japan had had a genuine change of heart and was cultivating China's friendship in all sincerity, it has been concluded that Japan must have promised to concede something in one of the conferences which her representatives in Peking have had with the Chinese. It has also been rumored in official circles that the whole disposition of Kiaochow is settled in detail, that the territory is to be returned to China at the end of the war, upon which China will open a settlement at Tsingtao and turn the Tsingtao-Tsinanfu railway over to Japanese management. This may be no more than a rumor echoing Chinese hopes, but it is clearly indicative of what the Chinese official class expects from Japan if the two countries are to take adjacent places in the Entente.

America, which seemed to take the assured place of guide and mentor to China early in February, dropped out of public gossip and seemingly out of the minds of the heads of the Chinese Government. It was assumed when China despatched her note to Germany, February 9, that America would shortly enter the war and that China could take further steps in the wake of a friendly nation with a fixed war policy. As America did not declare war the Chinese gradually lost interest, decided that American support was neither certain nor vigorous, and turned to the Allies to see what terms could be made.

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* The following was handed in by M. Conty, the French Minister, representing the seven allied powers, in the presence of the seven allied representatives, on Wednesday, February 28, 1917:

S.E.M. Lou Tsêng-tsiang étant venu au nom du Président du Conseil demander officiellement aux Représentants des Gouvernements alliés les dispositions de leurs Gouvernements pour le cas d'une rupture entre la Chine d'une part et l'Allemagne et l'Autriche-Hongrie d'autre part, les Représentants des Gouvernements alliés ont l'honneur de lui faire savoir que leurs Gouvernements se sont mis d'accord pour réserver en principe un accueil favorable a ces demandes saufs à examiner avec les dispositions les plus amicales d'ailleurs les détails, les précisions et les modalités à adopter notamment en ce qui concerne la question des indemnités de 1901 étant bien entendu toutefois dans l'esprit des Gouvernements alliés que les concessions demandées supposent entre la Chine d'une part, l'Allemagne et l'Autriche-Hongrie d'autre part une rupture des relations diplomatiques comportant toute l'extension nécessaire.

China Bargains with the Entente

In this respect there was much "sounding" of opinion, and on March 14, the day when the German Minister and his staff were handed their passports, the Minister of Foreign Affairs, Dr. Wu Ting-fang, invited the seven Allied Ministers to the Waichaiopu when, after some discussion, he presented them with the following document of China's wishes:

> (1) With respect to the respective shares of the Entente Powers of the indemnities of 1901 it is hoped that they will, with good intention of assisting China's finances, suspend the payments for the period of ten years, after which period the annual payments according to the original instalments, without any addition of interest, are to be resumed.
>
> (2) The Chinese Government hopes that the foreign Powers, with the good intention of assisting China's finances, will agree to the immediate imposition of a surtax of 50% on the present import duty. In the meantime, the Chinese Government will revise the Customs tariff, and after revision, levy an effective 7½% duty. So soon as the Chinese Government shall have abolished likin, the duty will be raised to the effective 12½% stipulated for in the commercial treaties of 1902, 1903, 1904 with Great Britain, Japan, the United States and Portugal. The transit dues will be abolished when the duty is raised to 12½%.
>
> (3) It is hoped that the provisions contained in the Protocol of 1901 and accessary documents that tend to impede the effectiveness of precautionary measures of the Chinese Government *vis-a-vis* the Germans, *e.g.*, those respecting the inability of the Chinese troops to be stationed within the radius of 20 li of Tientsin and the presence of foreign troops in the Legations and along the railway, will be cancelled.

The Chinese Government undertakes towards the Entente Powers the following two responsibilities only:

(1) *Supply of primary materials.*

(2) *Assistance in respect of labor.*

Some Entente Questions

The Allied Ministers then handed the Minister for Foreign Affairs an Aide-Memoire in which they proposed questions to the following effect:

(1) Does the rupture of diplomatic relations extend to Austria-Hungary?

(2) What is to be done with the secretaries of the Legation and German Consuls, the Financial Adviser, M. Cordes; the Commercial Attache, M. Eggling, and all the German officials?

(3) What is to be done with the German Concessions? How is China going to disarm German troops?

(4) What measures will be taken in regard to German and Austrian boats lying in Chinese ports?

(5) What will be done with the German and Austrian employees in the service of China?

(6) What will be the treatment of German and Austrian civilians of military age, and commercial houses?

In a discussion which ensued Dr. Wu Ting-fang intimated that the Government had not considered Austria at all, and upon being pressed for some indication of the Government's intentions with regard to that nation he stated that he would put the whole matter before the Cabinet. There was no opening of negotiations to settle the points raised, and the meeting dispersed.

On March 15 the German Concession at Hankow was taken over by the Chinese, and on the next day the Tientsin concession was similarly dealt with, the Germans handing over without any trouble.

China's Reply to the Entente

The Government remained silent with regard to the questions put by the Allied Ministers until March 20 when Dr Wu Tingfang made the following communication:—

> The representatives of the seven Allied Governments having inquired on March 14 as to the explanation given by the Chinese Government of the rupture of diplomatic relations with Germany, the reply to the questions is seriatum as follows:
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> (1) At present the breach of diplomatic relations extends only to Germany.
>
> (2) The secretaries of the German Legation, German Consuls, and other German officials of the German Legation and Consuls will be given passports to return to Germany, the Chinese Government permitting the German Legation and Consuls to leave behind members of their respective staffs to look after their archives and to assist the Legation and Consuls of that neutral Power which has charge of German interests. M. Cordes and M. Eggling are not on the list of German diplomatic and Consular officers stationed in China.
>
> (3) German Concessions will be patrolled by Chinese police sent by the Chinese Government and the German troops will be disarmed within a specified time.
>
> (4) German ships in Chinese ports have been taken in police charge by officers of the Ministry of the Navy.
>
> (5) Germans in the employ of China will be dismissed or retained as the case may require.
>
> (6) German private individuals and businesses carried on by them will be treated according to international usage.

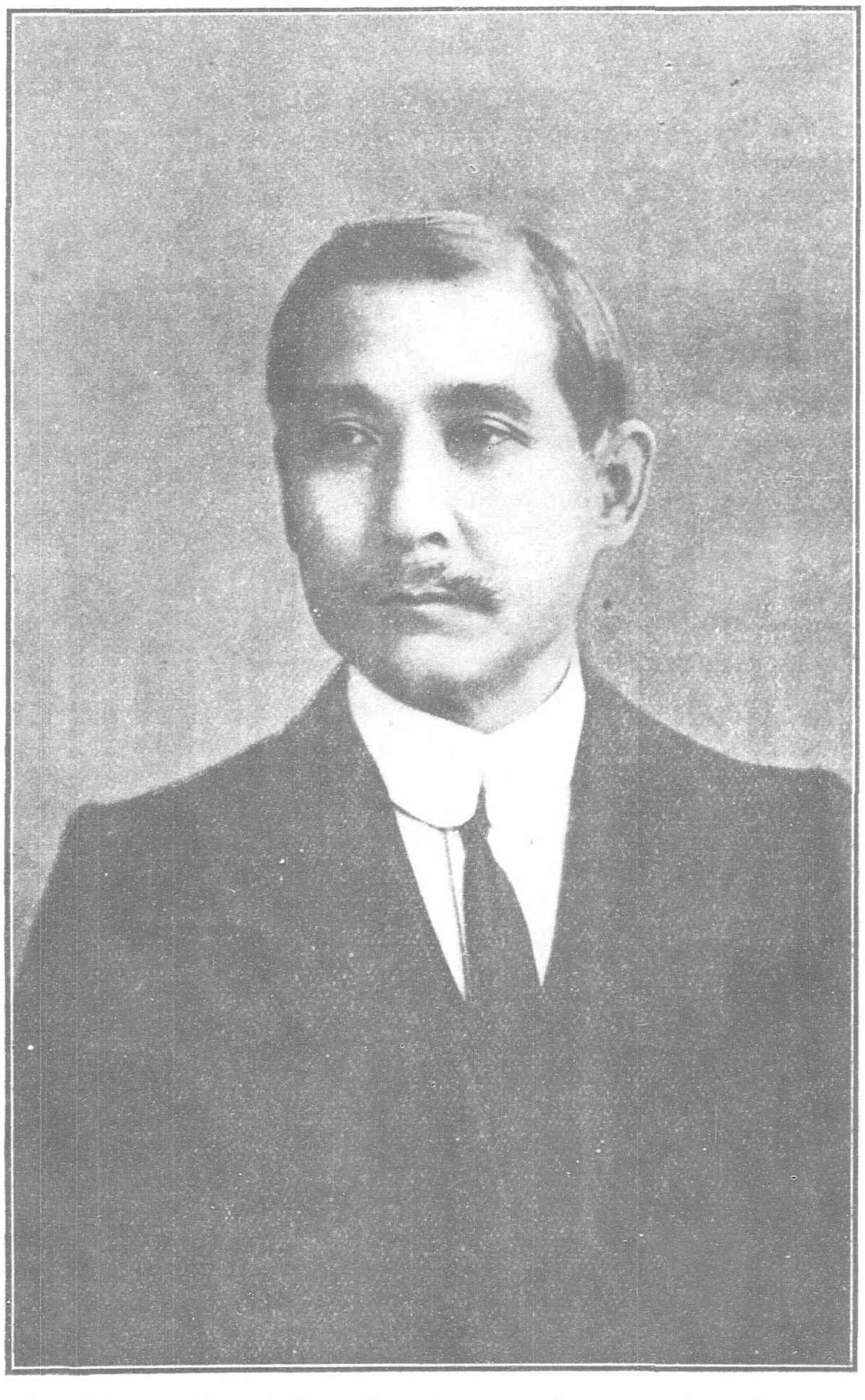
Considering that the Entente Ministers were in no way pressing an invitation upon China to enter the war, they regarded the above reply as very unsatisfactory, especially since China demanded so much and showed so little disposition to assist. Her, desire to limit her undertaking to supplying primary materials and giving assistance in respect of labor, meant nothing since both were already being obtained by the Entente in return for payment, and it was by no means necessary for China to enter into the war to enable the Entente to secure them. Consequently, the Entente Ministers had nothing further to say on the matter, and no further steps had been taken by either side up to the time when this was written (March 27).

The sinking of several American steamers had, however, increased the chances of America joining in the war, and the Chinese once again began to favor association with America, preferring that, of course, to the possibility of coming under the aegis of Japan if they went in with the Entente. Those Chinese who favored joining with the Entente saw that there was something tangible to be gained, apart from a seat at the peace conference, by such a step, whereas they argued that joining with America would gain them little except peace conference representation.

Amazing Action of Sun Yat-sen and Tang Shao-yi

Disappointed Ex-President Declares Five Years of Republicanism has converted China into a horde of Boxers ready to massacre Foreigners

The telegrams sent by Dr. Sun Yat-sen to the British Premier and the Chinese Parliament, and the telegram sent by Tang Shao-yi and Wen Tsung-yao, mentioned in the foregoing article, are so extraordinary as products of the minds of three men supposed by Chinese to be possessed of patriotic intelligence that no apology is needed for their reproduction. They are as follow:



SUN YAT-SEN, CHINA'S FIRST PRESIDENT, WHO PROPHESIES ANTI-FOREIGN UPRISING

The Telegram to the British Premier

His Excellency Lloyd
George, London.
Your Excellency:

As a patriot of China and grateful friend of England, to whom I owe my life, I deem it my duty to point out to you the injurious consequences to China and England caused by this agitation of some of your officials here to bring China into the European conflict. I have been approached by prominent English to consider the question of China joining the Allies. After careful study I have come to the conclusion that it would be disastrous to both countries shouldChina break neutrality.

For China is yet an infant Republic and as a nation she may be likened to a sick man just entering the hospital of constitutionalism. Unable to look after herself at this stage, she needs careful nursing and support. Therefore, China cannot be regarded as an organized country. She is held intact only by custom and sentiment of peace-loving people. But at once should there arise discord, general anarchy would result.

Hitherto the Chinese possessed unbounded faith and assurance in the strength of England and her ultimate triumph, but since this agitation by short-sighted though well-intentioned people, while some English dailies even advocate the sending of several Chinese divisions into Mesopotamia, this confidence has been greatly shaken.

Should China enter the war it would prove dangerous to her national life and injurious to the prestige of England in the Far East. The mere desire to get China to join the Allies is to Chinese minds a confession of the Allies' inability to cope with Germany.

Just now came Premier Tuan's report to the President that Entente Powers are coercing China to join the Allies. Already this question has raised bitter dissensions among statesmen. Discord now may cause anarchism which will evoke the two strong but perilous elements in China,—anti-foreign fanatics and Mohammedans. Since our revolution, anti-foreign feelings have been suppressed by us, but the anti-foreign spirit lives and may take advantage of the critical time and rise in another Boxer movement with general massacre of foreigners. If war is declared against any country, the ignorant classes cannot distinguish one nation from the other and consequences would be more fatal to England, owing to her larger interest in the Orient.

Again the Mohammedans cannot be overlooked. To fight against their Holy Land would be a sacrilege.

The worst result of anarchism in China, I fear, would be dissension among the Entente Group, which would surely mean disaster to the Entente cause. Under such conditions and at this critical juncture China cannot be expected to do otherwise than maintain strict neutrality.

My motive for calling YourExcellency's attention to this injurious agitation is actuated not purely by the desire to preserve China from anarchy and dissolution, but prompted by my warmest sympathy for a country whose interests I have deeply at heart and whose integrity and fair name I have every reason to uphold and honour.

SUN YAT-SEN.

Scathing Newspaper Comment

Commenting upon this remarkable effusion the Chinese owned and edited *Peking Gazette* says under the title of "An Amazing Telegram:"

"Here in the midst of a decision that is surely to be the greatest to be made by us, is heard a voice speaking words that can only be apt on the lips of a jester. But though Dr. Sun Yat-sen's message to Mr. Lloyd George may appear comical to us on account of its fantastic

exaggeration and lack of responsibility and reality, it has mischief in it for his country. Can there be anything more untrue and mischievous than the outrageous statement of Dr. Sun Yat-sen that 'the anti-foreign spirit' which expressed itself in the madness and orgies of the Boxer Outbreak 'still lives and may take advantage of this critical time to raise in another Boxer movement, with a general massacre of foreigners?' Not even a German would say that. And yet this frightful falsehood is uttered by a man who has had the rare historic honour of being the first President of the Republic of China and is accounted a patriot and a great lover of his country. Dr. Sun Yat-sen deliberately states that 'after a careful study of the question' he has come to the conclusion that it would be disastrous for China and England 'should China abandon neutrality and should China enter the war it would prove dangerous to her national life and injurious to the prestige of England in the Far East.' We have to characterise this statement as being less an attempt at a critical forecast of events than an effort at uninspired prophecy. It is, perhaps, something more or rather worse. It argues an amazing ignorance at once of the general facts of the Far Eastern question and of the special facts of the situation created by the irreversible decision taken by the Chinese Government when it communicated the note to Germany regarding the new development of German submarine warfare and committed China to an association with the American action in the same matter. Dr. Sun Yat-sen's reference to the Mohammedans as a strong and perilous element of 'anarchism' in China is a comic touch that reminds one of Don Quixote, astride the steed Rosinante, charging at windmills as if they were mounted knights oppressing the weak. Chinese Mohammedans are no more a 'strong and perilous' element of 'anarchism' than the windmills were real foes capable of breaking a lance with the famous Knight of La Mancha!"

The *North China Daily News*, of Shanghai, says:—

"From the manner in which it reaches us, we are bound to assume that the extraordinary telegram to Mr. Lloyd George which we reproduce elsewhere is indeed from Dr. Sun Yat-sen. If we have been hoaxed, we express our regrets to Dr. Sun in advance, as the message reflects but little credit on his purpose or sincerity. Indeed a more insidiously mischievous composition would be hard to imagine. It would be interesting to know what 'prominent Englishmen' have approached Dr. Sun. Certainly no one in any official capacity has done so, either here or in Peking. The statement put into General Tuan's mouth that the Entente Powers are coercing China is a pure figment. The Entente Ministers did not even approach the Government for several days after China had sent her note to Germany; and there is not a vestige of truth in the suggestion of 'coercion' nor has the Premier ever made such a suggestion. We should also like to know what English dailies have advocated sending Chinese divisions to Mesopotamia. The remark about Mohammedans is merely silly: there are far more Mohammedans in India than in China and no Indians are more loyal to the Raj. Of the malicious hint about "dissension among the Entente Group" Japan may take notice if she thinks fit, but we imagine it will be beneath her dignity. The whole message appears carefully contrived to bring discredit on the Allies and, incidentally, to stir up trouble against the Chinese Government."

Dr. Sun's Telegram to Parliament

"The Diplomatic question involves grave consequences. Therefore, I, being one of the citizens of China, cannot refrain rom expressing my views in connexion therewith. The people who advocate China's joining the Entente usually answer the question of advantage and disadvantage of China's action with he statement that China will in one jump become a first-class Power after joining the Allies and her diplomatic relations henceforth will be much better. This statement seems to be quite plausible. From the point of view of humanity and justice, they say that Germany's principle of might must be overcome and that China cannot sit still to witness the right being suppressed, and for this purpose she cannot avoid her duty even if that course calls for the sacrifice of the country. Such a spirit calls for respect.

"However, it is my view that the rise of any nation depends upon its own strength. If there is the danger of internal trouble consequent upon joining the Entente and the action does not bring forth good results, then the hope of becoming a first-class power can hardly be realized. And, further, the injuries done to China will simultaneously expose the weak points of the Allies and thereby other difficulties will be created. Thus our defence for humanity will simply benefit the Germans.

"The European war is a conflict of interests. China's position is a different one, and therefore there is no necessity to involve ourselves in the issue under the pretence of humanity. I have deliberately considered the question of China's joining the Allies over and over again, and I have also studied the conditions prevailing in the South. I therefore thoroughly know that two dangers will be created after throwing in our lot with the Entente. *The first danger is that of a blind anti-foreign movement and the second is that of rebellion by Mohammedans.*

"*The anti-foreign sentiment of the Chinese people is deeply rooted*, and it will burst into action whenever there is a chance. Should hostilities open, there is sure to be some action by the enemies residing in this country to our injury. *In revenge, a general massacre will be made without distinction of nationalities. Thus, another Boxer movement will soon be forthcoming.*

"Again, the influence of the Mohammedans is not to be overlooked. If China wages war against Turkey, the Mohammedan people will certainly rise in rebellion because of their religious conviction. Then chaos will be created in China, and she will soon perish. Such conditions will not be injurious to China alone.

"Therefore the Entente Powers will not only fail in their desire to get help from China, but, instead, they will be the first to be disastrously affected by the Boxer movement. *Furthermore, internal disturbances in China may endanger the unity of the Entente group because of the jealousies amongst themselves.* Such a state of affairs will be of advantage neither to China nor to the Allies.

"The Entente Powers have not been able to see these dangers. Had they known them they would not have induced China to step into a pitfall.

"As I am in the South, I am able to make a thorough study of the conditions, and I have yesterday telegraphed my views to Mr. Lloyd George, the British Prime Minister, advising him to cancel the policy which has been suggested. As the British Prime Minister is a man of sagacity and wisdom, he will surely appreciate the warning. But changes in International dealings cannot be made as easily as games between children, and it is to be feared that the British Government will suddenly alter its policy which has already become known publicly. Britain may still look to our country for abandonment of the course that had been suggested.

"I have now heard that the Government has decided to join the Allies. The Government may have been coerced to take this step. But being representatives of the people, you cannot shirk your responsibility. I hope that you will study the question and will insist upon your own views. It is only through you that the course we are going to take up may be retrieved. You must not throw China into a whirlpool of uncertainty, so that the considerable trust that the people have reposed in you will not be abused."

The Telegram of Tang Shao-yi and Wen Tsung-yao

"To The Senate and The House of Representatives.

"The momentous nature of the present diplomatic question has caused us to remain silent for some time, not venturing to make any hasty utterance regarding the policy of the Government. But after careful study of the situation, we have come to the conclusion that it is impossible for China to follow America in regard to Germany and that there will be more harm than good from association with the Entente Powers. In support of this conviction we beg to lay our views before the members of the Honourable House.

"Notwithstanding its severance of relations, the United States has not declared war upon Germany. The reason is that the German residents in America are under the jurisdiction of the United States, so there is no fear, during this critical period, of plots and conspiracies by the Germans in the country. But this country is in quite a different position. Fettered by extraterritoriality we shall be powerless to deal with the thousands of German residents in this country, even after the severance of diplomatic relations. If the control of these German residents is transferred to the Legation of another neutral country here, it is highly improbable that such Legation will have the ability to keep several thousand aliens in proper order. In these circumstances, how will the authorities be able to preserve peace and order throughout the country? When the Government finds it impossible to maintain peace and order on account of plots and conspiracies by the Germans, then a declaration of war upon Germany will be inevitable. For this reason, we are concerned that the country cannot follow the example of America and of severing diplomatic relations without declaring war on Germany.

"The national outcome of war on Germany and association with the Entente Powers will be disturbances and uprisings in the country. In the end the Government will have to appeal to foreign Powers for military aid to deal with the situation which may compromise its rights and powers as a sovereign nation. This will be the inevitable outcome of the situation.

"China's greatest grievance growing out of the war is that a large number of Chinese labourers have lost their lives, on board of the French steamer which was sunk. Chinese labourers are to blame for taking passage in a belligerent ship sailing to a danger zone. Their act may be likened to a moth blindly flying towards a fire. When a moth is burnt to death in this manner, it is the moth that kills itself. The Entente Powers have taken measures to prohibit in certain cases their children and other non-combatants from travelling by sea but this prohibition does not apply to Chinese labourers, who are being enlisted and shipped to Europe for service. The enlistment of our labourers and shipment of them to Europe in ships which are in great risk of being sunk is indeed a measure which renders both the employer and the employee culpable. Would the Government stake the very existence of the country merely for the redress of such a grievance?

"A more fantastic suggestion is that after we cast in our lot with the Entente Powers, we shall at once become a first class Power. The only questions are: Has the country abolished its consular jurisdiction? Does the so-called "Sphere of Influence" still exist in this country? So long as these two international servitudes remain in this country, there is no way to elevate it to become a first class Power. Being entrusted with the power of government, the authorities should not shape the foreign policy according to the wishes or pleasure of another country as readily as an individual offering a present to his friends.

"Being the highest legislative organ of the land and having the absolute power to decide on questions that concern the life or death of the nation, Parliament should exercise the greatest discretion in deciding the present question. It is hoped that the Assembly will not give a too credulous ear to the idle talk about profits to be gained from entry into the war. It should not be induced to favour war with Germany for this reason nor should it lightly overlook the meaning and the importance of severing diplomatic relations with Germany. Parliament should keep clear of the illusion that mere severance of diplomatic relations with Germany will not likely hasten this country into the war. The matter is of utmost urgency and the situation is critical. We hope that you will make a final decision on this great issue with manly resolution."

(signed) Tang Shao-yi
Wen Chung-yao.

TANG SHAO-YI, FORMER PREMIER OF THE REPUBLIC OF CHINA

Press Criticism of Mr. Tang

The *Peking Gazette* has the following to say about Mr. Tang's effusion:

"In another column we publish a translation of a joint telegram which Mr. Tang Shao-yi and Mr. Wen Tsung-yao, Co-Director of the Port of Pukow, transmitted to Parliament on Saturday in opposition to the Government policy against Germany. It will be seen that Parliament is urged to oppose any action which is to be followed by China either associating herself with America or joining the Entente. And this pacifist counsel is based on the contention that a departure from neutrality must lead China to war against Germany, which will result in internal disturbances with disastrous consequences to Chinese sovereignty. While this reasoning is on the face of it exceedingly feeble and unconvincing, there is an absence in it of the extravagance and irresponsibility which mark the late messages sent by Dr. Sun Yat-sen to Mr. Lloyd George and the Chinese Parliament.

"It is greatly to be regretted that Mr. Tang Shao-yi has thought it necessary to associate himself publicly with Dr. Sun Yat-sen in the latter's opposition to the course which both the Government and Parliament have decided to take against Germany in connexion with the submarine issue. This opposition argues such a complete absence of acquaintance with the capital facts of the international situation in its relation to China that it is not unlikely that confidence in Mr. Tang Shao-yi as a political leader of New China may be shaken. In spite of much bitter criticism of the man by Mandarins and foreigners, a large number of western-educated Chinese have been looking to Mr. Tang Shao-yi as a leader under whom this country would be able to re-adjust its ancient life and methods of work to the new conditions and environment created by foreign intercourse and influence. It is held that such a re-adjustment can only be effected under the leadership of a Chinese who is capable of realising that, within the time at our disposal, the solution of what is called the Chinese question demands the assistance of efficient foreigners. The question is largely one of the modernisation of our administrative system in the sense of those principles which have yielded efficiency and power to Western states: and, seeing that there are not sufficient Chinese who can do the work, it is imperative that we summon to our assistance competent foreigners to be engaged by us as servants and not as the servants or agents of a foreign Power or set of Powers. But experience shows that it is utterly useless to leave the engagement and the use of such foreigners in the hands of Chinese officials who are wholly ignorant of the West and incapable of understanding and working with the foreigner. The inevitable result must be the sort of Gilbertian situation which we are witnessing to-day in the Capital, where a number of highly-paid foreign advisers are daily clamouring for work to do and are regarded simply as nuisances by our Mandarin rulers.

"And this is not incomprehensible. You can no more expect one of our Mandarin quidnuncs to understand and employ rightly a competent foreigner than the latter can be expected to fathom the curious mind of a class of people who fancy that they can repel Japanese aggression in China by a lavish exhibition of 'sincerity and frankness.' National salvation by the modernisation of our administrative system will never come to China as long as there are not among our rulers Chinese who know the West and can understand and use foreigners in those departments of state where Western efficiency must be introduced in the interests of good government. Not a few Chinese see in Mr. Tang Shao-yi such an one; and that is the reason why they have been looking forward to the day when he might be called into the active service of his country to assist in the modernisation of our methods of administration. But his opposition to a course which—among its many effects—is calculated to force the Mandarins to realise the necessity of such an administrative transformation, is not a little discouraging and surprising.

Wen Tsung-yao

"The reason for this opposition of Mr. Tang Shao-yi is so unconvincing that a suggestion has been made that the real ground of his action is less a fear of internal trouble following a rupture with Germany than the party view that the Government policy will strengthen the Military party and their political supporters to such a degree that the latter will be indefinitely entrenched in power. This is certainly not an idle suggestion, when it is remembered that the political opponents of Mr. Tang Shao-yi and his party will be in possession of large sums of money as a result of the Chinese action against Germany. And there is no need to dilate on the manifold uses to which these sums will be applied by people who are determined to defeat Mr. Tang Shao-yi's party at the Parliamentary elections due some months hence. On this view it seems to us that, if Mr. Tang Shao-yi did not see his way to challenge his political opponents openly in his telegram, he ought to have realised the futility of a message, based on a reason that did not correspond to reality; and he ought to have directed his efforts towards moving Parliament to secure the proper and national application of the moneys coming to the hands of the Government as a result of the breach with Germany. Among other things, he might have urged Parliament to demand public p'edges from the Government that these moneys would be applied, first, towards the complete restoration of the credit of the Bank of China and the cancellation of the moratorium order and, next, towards the effective disbandment of the 'superfluous troops' who are at once a menace to internal order and peace and an insuperable obstacle to the imperative re-organisation of Government finance. If this had been done, Mr. Tang Shao-yi would have been saved the despatch of a message which hardly does his knowledge of the internal conditions of China credit and further increases Entente distrust of him as a statesman, besides weakening his influence with those who—for national reasons—would like to see him assisting in the government of the country."

The Germs of a Boxer Movement. Marvellous Magic to Cause Boxers to Dematerialise

In order to illustrate that Dr. Sun Yat-sen perhaps has sinister reasons for his threat of Boxerism we reproduce the following significant paragraph from the *Peking Daily News* of March 9. Those who know China will realise that if Dr. Sun wishes to save his face as a prophet there must be an outbreak, and those who know China know full well that it is quite an easy matter to arrange an outbreak almost at any time providing the riff-raff employed is organized for the purpose. Dr. Sun has a reputation for organization of "blood and iron" brigades, and be it hoped sincerely that he has nothing to do with the following:

A correspondent from Shantung writes: "Li Chi-yi, a native of Chailohsia in Yihsien District, Shantung, who some time ago tried to organize in Peking a 'Huangtien' Religion, a form of Boxerism, has returned to his native village, after his failure and the execution of his two other accomplices. He has now started afresh his plans for converting the simple villagers. He is to form an invincible army of 840,000 strong, who shall be taught to hide their persons and to disappear in time of danger by means of a kind of wonderful magic. This leader says that by this time next year he will be able to complete his schemes of magic so that he will be able to travel upon the clouds to direct the operations of his troops. More than 3,000 vagabonds and ignorant villagers, who desire to obtain wealth and influence by a short cut, have been recruited and are drilled every day by this impostor, and in the villages in the vicinity of Chailohsia nearly every villager is a follower of this new 'religion'. The district Magistrate, who has been informed of the movement, has not the courage to issue instructions for its suppression, nor has he reported it to his superiors. Before the Boxer Movement had attracted the attention of the late Empress Dowager and the Manchu Princes it seemed to have very little significance, as here and there were merely a few thousand men gathering together to practise the art of magic and to improve their boxing; but gradually the movement spread and finally it was adopted by the mad Manchu Princes as a sort of State Religion. Although the present movement in Chailohsia would not at present require much strength to put down, there will be serious developments, if the local authorities should connive at it."

Rupture of Diplomatic Relations. A Public Proclamation

The following Mandate was issued by the President on March 14:

"Our country has maintained strict neutrality since the outbreak of the War in Europe. To our surprise, a note was received from the German Government on the 2nd February of the present year, stating that beginning with that date, neutral ships would, in accordance with Germany's new blockade measures, sail in certain prohibited zones at their own risk, etc.

"In view of the fact that previous to that time Chinese life and property had suffered heavy losses because of the German policy of attacking merchantmen, and that such losses would assume a far greater magnitude consequent upon the plan of unrestricted submarine warfare, we lodged a strong protest with Germany. We also declared then that if Germany should fail to change her policy, our country would be constrained to sever the existing diplomatic relations.

"It was our earnest hope that Germany would not insist on her policy, so thatt he friendly relations hitherto existing between the two countries might be preserved. Unfortunately, Germany has not yet modified her policy of submarine warfare although our note of protest has been delivered over a month, and during all that time many cases of loss of life by our people have occurred owing to the sinking of merchantmen of the various Powers.

"A formal note of reply was, however, received from Germany on the 11th instant. Against our expectations and wishes, the reply stated that the blockade warfare could not be cancelled. Therefore, for the purpose of upholding International Law and to safeguard the lives and property of our people, it is hereby declared that from to-day we sever our diplomatic relations with Germany."

Bearing the seal of
The President,
and signed by:—

Tuan Chi-jui, Prime Minister and Minister of War,
Wu Ting-fang, Minister of Foreign Affairs,
Fan Yuan-lien, Minister of the Interior and of Education,
Chen Chin-tao, Minister of Finance,
Chen Pi-kuan, Minister of the Navy,
Chang Yueh-tseng, Minister of Justice,
Ku Chung-hsiu, Minister of Agriculture and Commerce,
Hsu Shih-ying, Minister of Communications.

Protection of Germans. Presidential Mandate

"Now that our country has severed diplomatic relations with Germany, the various Government offices are hereby ordered each in accordance with its requirements to draw up measures for promulgation and immediately to carry them into effect for the protection of German residents and also to take other necessary measures, in accordance with the prevailing rules of International Law."

REGULATIONS ISSUED BY THE CHINESE GOVERNMENT FOR THE CONTROL OF GERMANS IN CHINA

The rules referred to in the Presidential proclamation above cover a wide range as they provide not only for the registration and residence under such certificates of German traders and missionaries, but for the care of German officials, disarmament of German troops and their internment, and arrangements for dealing with German national and public property relating to war uses or of a military character.

A summary of the Rules regarding civilians is comprised in a notification of the Sungkiang-Shanghai Commissioner of Defense which is as follows:

Notification No. 4 of the Sungkiang-Shanghai Commissioner of Defence

March 21, 1917.

Whereas to the deep regret of our Government it has become necessary to sever diplomatic relations between China and her good friend Germany, whose subjects resident in our country are very numerous, it is right and proper to give public notice of the definite arrangements laid down in accordance with international practice as follows:—

1. German civilians in the Chinese localities where residence is allowed may hereafter continue to reside as before, provided that within three days of the posting of notice in each such locality they report their names, surnames, ages, addresses and occupation at the police office at the place of residence, or when there is no police office, at the magistrate's office, where the proper office will issue to them certificates of residence. Those who wish to leave China likewise must within the aforesaid period report the fact.

Hereafter German civilians will not be prevented from entering China but on entry must report as above prescribed. But the existence of special circumstances will justify exclusion.

Prisoners of war escaping into Chinese territory will be dealt with in accordance with general international law.

2. The persons and property of German civilians resident in China will be uniformly protected in due manner and they may continue to follow their peaceable lawful avocations.

3. German civilians resident in China must submit to all the Chinese laws and ordinances in force.

4. German civilians resident in China if guilty of an offense or of conduct prejudicial to China or at recognized time of stress may be either ordered to withdraw or forbidden to withdraw, or forbidden to remove and travel about, and may be subjected to suitable restrictions.

And this applies also to those who do not obey the provisions of the first and second sections of article 1 hereof.

5. Those who are ordered to withdraw under the above provisions may while unable to withdraw owing to genuine obstacles, be afforded proper disposition.

6. German civilians resident in China who are in possession of private dangerous articles or of articles capable of military uses shall themselves hand them in, on pain in case of detection, of penalty, in addition to the confiscation of the hidden articles, on the lines of the provisions in article 4.

The above articles, designed for protection and support, wholly out of the charity of the Government of China towards German residents, are published for general observance.

(Signed) Lu Yung-hsiang.
Commissioner of Defence.

ASIA AGAINST THE WHITE MAN

Design to Free India from British Rule

Exposure of the Reasons Prompting Sun Yat-sen and Co. to oppose a Break with Germany

In the preceding article we have intimated that the explanation of what would appear to be extraordinary opposition on the part of Dr. Sun Yat-sen, ex-President of the Chinese Republic; Mr. Tang Shao-yi, ex-Premier of the Chinese Republic; and Mr. Wen Tsung-yao, one of the most energetic leaders in the establishment of the Republic, to the forward step the Peking Government has taken to align China with the Powers fighting for the maintenance of the principles of International Law—upon the preservation of which China's future, more than that of any other country, depends—is due to their association with a Pan-Asian movement.

It is remarkable that foreigners have so far failed to realise that such a movement is vigorously afoot; that it has many adherents, chiefly in Japan, and that their plan is a far-reaching one, particularly with regard to the overthrow of British rule in India, and the ousting of the influence of the white men from the entire region covered by the term Asia—which embraces Japan, China, Siam, India, the Malayan Archipelago, and the islands of the Pacific—if not from Australia.

The movement has its genesis in Japan, whose ambition for world dominion is not to be scoffed at. And in this connexion, and in view of the significant utterances of Dr. Sun Yat-sen and Mr. Tang Shao-yi—the new converts to the movement, who, as potential leaders of political parties in China, are now openly heading a campaign in China—we draw special attention to articles on the subject in previous issues of the *Review*, specially the July, 1916, number.

The startling telegrams which Dr. Sun Yat-sen has despatched to the British Premier and to the Chinese Parliament, backed by the telegram to the Chinese Parliament jointly signed by Messrs. Tang Shao-yi and Wen Tsung-yao, in strong opposition to China breaking off diplomatic relations with Germany, will probably do more to focus the attention of the European and American nations on the sinister programme that these men have in view, than anything else could have done.

The British people, it is strange to note, seem to have been willing to close their eyes to the great menace to India disclosed in previous evidence collected by us from Japanese sources, and perhaps the most amazing feature of this attitude is the fact that efforts have been made by certain narrow-minded opponents of the *Review* in England to have this paper penalised for publishing what constitutes the gravest and most important evidence of a movement to undermine British rule and prestige, both political and commercial, in the East that has yet been made available to the public. The efforts of our opponents have been directed towards preventing us publishing material in this connexion. We may now ask them is it advisable in British, or Entente interests, to minimize or overlook the tremendous significance of the opposition of the Chinese radical leaders to the efforts of British and other influences to secure the co-operation of China in the overthrow of Germany?

That opposition is not, as may be supposed at first glance, due to any desire on the part of Sun Yat-sen and Co. to keep China out of the world war purely because they believe that it is better in world interests that she remain neutral. It is solely and wholly because the co-operation of China with other foreign powers will do more to obstruct and perhaps entirely frustrate their plans for Asiatic union than anything else could have done. The most casual consideration, in the light of the following statements of Sun Yat-sen and Tang Shao-yi, will indicate to the most disinterested mind that China, when she throws her lot in with the Entente nations or America against Germany, will prevent a union with Japan in the movement to oust the white man from Asia. To effect such a purpose it is essential that China should be entirely free from foreign influences so that she might, under the hegemony of Japan, be at liberty to develop what plans are necessary to ensure ultimate success for the movement.

Sun Yat-sen's telegram to Mr. Lloyd George had no other purpose than to frighten the British Government from accepting China's co-operation by a threat of wholesale massacres of foreigners. A ghastly suggestion and a blackguardly one, seeing its object, when it comes from one who has previously sought and received protection from British people and the British nation.

It is only recently that the Japanese who foster the Pan-Asian movement have succeeded in recruiting active agents of some standing in the public mind to carry on propaganda work in China, and that they have enrolled men like the three above mentioned shows that they must have been able to offer substantial inducements and practically guarantee success. It must be explained, of course, that in working for the enlistment of Dr. Sun, Mr. Tang and Mr. Wen the Japanese believed that they were really powerful and accepted leaders of the Young China party, and as such would carry great weight in the promotion of any cause to which they might accord their adherence. What will now surprise the Japanese is that these three men have signally failed in the first attempt to sway the party representatives in Parliament, for Parliament substantially voted down the suggestion contained in the telegrams sent by them to Peking. And the logical conclusion to draw from that circumstance is that each vote cast in favor of severance with Germany is a deliberate vote of non-confidence in the leadership of the trio who were so politically short-sighted as to have despatched the telegrams. No sounder snub could well be given by any party to men who pose as its leaders.

That Dr. Sun, Mr. Tang, and Mr. Wen have been seduced by the Japanese is not surprising when it is remembered that they were foremost among those who bargained for the support of Japan in the revolution to overthrow Yuan Shih-kai. The Japanese agents dealing with this phase of the revolution worked with them to good purpose for they succeeded not only in removing their old prejudices against Japan (for the three of them have been bitterly anti-Japanese in the past), but they have also managed to secure their continued adherence to Japanese policy in China, bad as that may be for China, as well as their open espousal of a scheme which means nothing less than the overthrow of British rule in India, and the foundation of a system avowedly designed to drive the white races from Asia. What return the Japanese promised these men can only be conjectured, but the guess that it is assistance to elevate them to power cannot be far from the mark, malgre the declaration of Viscount Motono that Japan would refrain henceforth from meddling in Chinese internal politics.

If, however, publicists calmly accept the Japanese declaration and refuse to draw attention to the significant events that are developing, then so much the better for the cause the Pan-Asianists have at heart. They have a valued ally on their side when they have secured a silent press, and because other papers in the East, from a variety of reasons, preserve silence, we being independent, feel it our bounden duty to publish what is obvious to anyone who cares to inquire, and what is of first magnitude to the world. While condemned at the moment by zealous enemies who are unwittingly doing their country grave harm by assisting in the consummation of the Pan-Asian scheme, we feel that justification will be ours in the future.

Other nations may ignore the trend of events but it is significant that the Germans have not done so. German agents have done their best to bend to their purpose the projects of the three men mentioned, and to use the power it was believed they wielded to make it easy to launch an attack upon India through China. More substantial evidence of this fact than the discovery of such a plot in America should not be required, cabled references to the case dealt with about March 13 stating that a Hindu student of Columbia University, named Capta, had confessed that he had been employed with others by Captain von Papen, the late German Military Attache at Washington, to organize a military expedition against India, through China. The telegram added that Captain von Papen had paid Capta a huge sum *to go to Japan* in connexion with the project. At the time this telegram was sent from America the case was not concluded, the Hindu being released on bail.

Whether or not Dr. Sun, Mr. Tang or Mr. Wen personally knew anything about this plot we cannot say. Nor do we suggest that they did. But that it is in thorough accord with their cause is obvious, and more patent is it that the Germans were quick to seize upon their avowed leanings as a means of furthering the German object of causing difficulties in India, the Germans, like the Japanese, believing that the Shanghai trio had more influence in politics than it has now been proved they really possessed, such influence being necessary, of course, to further their plans with regard to India through China.

One of the first public utterances which disclosed the propaganda in which these men were engaged was made in the Japanese paper *Asahi*, when Dr. Sun Yat-sen supplied evidence of his aims. That the Japanese were assiduously working in China before this, however, we knew, for at the time when the infamous Twenty-one Demands were being imposed by Japan upon China, and which the Chinese of Shanghai in particular swore to remember in order to secure revenge—but which vow has already been forgotten by them—a Japanese Secretary of the Japanese Legation in Peking endeavored to persuade Cabinet Ministers at Peking not to oppose the demands on the ground that they were designed neither to embarrass nor to injure China, but were in reality contrived as a means to help her. Questioned to explain this peculiar reasoning he stated that Japan was really taking Chinese interests into primary consideration, the demands being but a first step in a great plan to bring about the union of Japanese and Chinese interests with a view to the ultimate amalgamation of all Asiatic interests so that from Japan to Egypt there should be built up a great Asiatic confederation for the purpose of ousting the white man. The Minister in question asked how long the Japanese thought it would be before they could get rid of the white people, and the reply was, in effect, "If the war goes as we expect, we will obtain complete mastery within seven years.'' The Japanese secretary pointed to the map, with particular allusion to Australia as part of the territory which the Asiatics should dominate, and remarked that as Asiatics were not permitted to enter either America or Australia freely, they should retaliate by refusing to allow white people to enter any Asiatic country.

After that the revolution against Yuan Shih-kai was inaugurated and Sun Yat-sen and company accepted Japanese assistance to bring it to a successful conclusion. And no doubt as a result of the close co-operation with the Japanese at that time the Pan-Asian propaganda found supporters in China who could be depended upon to use it as a means of securing advantage for themselves.

Dr. Sun Yat-sen and "The Foreign Yoke"

The *Asahi* statement (translated by the " Herald of Asia") referred to above speaks for itself, and one has not to be skilled in the art of reading between the lines to gather the general drift of the ex-President's ideas. The statement is as follows:

> Japan's acceptance of the Western doctrine of the "Open Door and Equal Opportunity" in China is the most potent cause of Sino-Japanese misunderstanding and friction, according to Dr. Sun Yat-sen, who recently discussed the subject with an *Asahi* representative. This noted revolutionist believes that all the trouble between the two countries is due to artificial causes, pointing out that the natural relations, such as the ethical code common to both Japan and China, have all tended to draw the two peoples closer together, rather than to separate them as artificial causes have certainly done. Japan's avowal of the "principle" of the "open door and equal opportunity" is merely the foremost of these artificial causes.
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> The question as to what induced Japan to adopt this "principle," Dr. Sun answers by reminding us of the great disparity of international status between the two nations. While Japan has attained a position of equality with the Western Powers, China is now a helpless prey to their exploitation. The doctrine of equal opportunity owes its origin to the anxiety of every one of those Powers not to be left out when any one of them acquires "rights" or interests in China, and it is only natural that Japan, a rising nation situated nearer to China than any Occidental Power, should

exercise every caution not to be forestalled by any other Power in the acquisition of rights and interests in China, since her own safety both as a nation and as guardian to all the Orient, would be seriously affected if she allowed European Powers to exploit China as they pleased, whether politically or economically. Hence her assertion of the open door and equal opportunity before the Powers of Europe, and her claims of preferential rights in China.

But this position, assumed by Japan for her own interests, is at variance with the desires of the Chinese people, and is the primary cause of their distrust of Japan, and of their dissatisfaction with her attitude towards them.

Chinese of the new school of thought look to Japan for assistance in effecting political reforms and advancing the civilization and power of their country, because they regard the Meiji Restoration and the political reformation of China as land-marks in the awakening of the yellow peoples as a race, and believe the Chinese political reformation to be in reality one of the fruits of the Meiji Restoration. At the same time they realize that their own political reformation is many times more difficult to accomplish than the Meiji Restoration, because international relations are far more complex to-day than they were fifty years ago, and the influence of Occidental Powers has penetrated China many times more deeply than it had penetrated Japan half-a-century ago. The removal of this foreign yoke is absolutely necessary to China's independence, which in turn is indispensable if a thorough political reformation is to be effected, but Japan has so far done little, if anything, to help China out of this foreign yoke. On the contrary, she has been content to avail herself of the European slogan for equal opportunities in China.

In the light of historical relations China and Japan are sisters. Unfortunately the elder sister, China, has been so enfeebled, physically and mentally, that she has to sit with folded arms while her property is taken away bit by bit by robbers operating in open daylight. What a contrast she is to her intelligent and vigorous younger sister, who can claim a share in the robbers' spoils and say to China, "Since you are giving away portions of your property to alien robbers, surely you can afford to give me a portion also"! So callous an attitude cannot but bitterly disappoint the Chinese people, and Dr. Sun's advice to us (Japanese) is, therefore, "Help China regain her national strength. Instead of exploiting her under cover of equal opportunity, help her, in the light of your experience since the Meiji Restoration, to set her house in order and free her from foreign influence." Then, and only then, will the Chinese be truly grateful to Japan for her moral support, and Dr. Sun thinks that the improvement of China's status among nations will mean an improvement in the position of the yellow peoples as a race, and conduce not a little to the raising of Japan's influence in the world.

The one-sided treaties concluded between China and the Powers, which are the most potent cause of her economic difficulties to-day, are the crystallization of the policy of equal opportunity, and the first step towards the economic emancipation of China should be a revision of her treaties. Should Japan assist her in effecting this much-desired revision, the hearts of all the Chinese people will go forth in gratitude towards Japan, and China, freed from her economic bondage, will be able to throw open all her resources to her benefactress. If China's purchasing power is increased tenfold by a treaty revision, Japan will benefit just to the same extent by an enlarged market, and the stronger community of interest thus brought about will naturally strengthen the friendship between the two nations. It is only by substantial proofs of goodwill such as this, that true friendship can be brought about between the two sister nations of the Far East.

Mr. Tang Shao-yi wants a Free India

Mr. Tang Shao-yi's first public contribution to the propaganda appeared as an introduction to a book entitled "Is Japan a Menace to Asia," which is "dedicated to the Cause of Asian Independence." This book is designed to convince readers, especially Chinese, that Japan should be the leader of Asia and that she is "the pride of Asia." It claims that Japan's achievements "speak for Asia, and they demonstrate that China and India, under better environment, can at least do like Japan in all fields of human activity."

The author, who happens to be an obscure but active native of India claiming American citizenship, defends Japan's policy of aggression towards China as being justified by a wish to "preserve Asian supremacy in the Far East." The author is avowedly against what he terms "whitemanism," and works for a union of the Asiatics to destroy the dominance of Europeans, with particular reference to the British in India, or anywhere else in the Near or Far East for that matter. Mr. Tang writes as follows:

> "The future of Asia depends upon the ability of the Asiatic people to assert their rights politically. Political weakness of Asia has been the cause of many troubles and wars during the last century and a half. Asia as a whole, except Japan, affords for the strong Powers unbounded natural resources, cheap labor, markets, defencelessness, and inefficient governments which give every incentive for aggression......Political backwardness is not inherent among the Asiatic people, though it is the current opinion among the western students. China in the past had her bright periods of history, her glorious days of Imperialism. In the field of culture and civilization China contributed her full share when she was politically strong. India of Asoka and Akbar was far ahead of any of the European countries of those ages. It is by contact with the Orient that Europe in the past has learnt many useful things for her present civilization.... To us it is quite clear that the Great Powers work unitedly to extract certain concessions from China......The concert of the Great European Powers have had one motive before them—exploitation of Asia and Africa to their advantage.
>
> "*This aggression of Europe in Asia can be stopped for the good of Asia and Europe by a solid Asiatic unity not merely from a cultural standpoint but also from a political standpoint.* This stupendous work of political regeneration of Asia by an Asian Concert has great moral and ethical aspects. There cannot be effective peace so long as one nation or a group of nations looks down upon the other as inferior and tyrannizes. Friendship and fellowship can be established on equal footing.
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> "Japan's demonstration of military strength forces the so-called superior nations to shake hands with her, though with great reluctance. Political assertion of Asia will make Europe and America more tolerant and respectful towards human rights.
>
> "Because Japan is politically strong she is able to develop her country politically and culturally. China is struggling to be free and she should accept co-operation from any quarter that is truly friendly. Japan is China's disciple of the past and all far-sighted Japanese believe that "Japan without China and India, is, in the long run, without legs." I would say that China without Japan and India is without legs.
>
> "*The fulfilment of Indian aspiration depends upon a strong united Sino-Japanese Alliance.* Those Japanese and Chinese statesmen who are conscious of the real interests of both nations are not suspicious of one another. But it has always been the case in the world's history that only a few people can detect the true situation, while the mob misses the right perspective of difficult problems. So the mass of China and Japan, and especially the jingoists of both countries, whether consciously or unconsciously, are acting against their own highest interests by distrusting one

another. To our regret we find that the anti-Japanese feeling in China is being fanned to flames by those outside interests which do not want to see China and Japan united.

"Can there be anything more pathetic than the condition of the people of India, one-fifth of the population of the whole world? The cause of the three hundred and fifteen millions of the people of India is the cause of Asia and Humanity.

"*Japan and China, if far-sighted, should not be unmindful of the problems of the people of India, because a strong, free India will be a source of strength to them.*

"We have been tired of hearing that Japan is a menace to Asia......We, however, do not look at a rising Japan in the same spirit. *We wish only that China and India be equally strong, that Japan holds her own on the Asiatic continent against European aggressors.* Then the international nuisance, charged to Japan, but really traced to other outside forces, will cease to exist in Asia. The awakening of Asia is the most outstanding feature of the present age. The future of Asia is bright and glorious if the new spirit of Asia be rightly directed in co operation with all the Asian people. *We hope, though we may not live to see it fully accomplished, that Japan and China and India will work unitedly, standing for Asian Independence against all outside aggressions.*"

The above is not the only evidence of the desire of Mr. Tang Shao-yi to keep China from becoming great through broader intercourse with the leading nations of the world. At a dinner given on March 15 to the new Chinese Commissioner of Foreign Affairs at Shanghai, he spoke strongly against the Peking Government for the action it had taken for breaking relations with Germany, and made the childishly absurd allegation, so we are informed, that an English friend had told him that the British Government had bought both General Feng Kuo-chang, the Vice-President, and General Tuan Chi-jui, the Premier, adding, in effect, **"Henceforth we Chinese are to be the slaves (using the Chinese term, 'small pig') of England."** If, as he believed, the Cabinet had been guilty of this crime they ought to be punished, he continued, and he for one would gladly assist to have the punishment carried out "Punishment," when used in this sense in China, is to be. carried out, of course, at the point of the revolutionary sword, but the threat contained in the speech cannot now be translated into deeds, since the Government gives evidence that it is watching with particular care the would-be trouble makers, martial law having been proclaimed in the Yangtsze Valley soon after the telegrams printed in the previous article were received in Peking. In addition a timely hint was given to those concerned that silence would become them better than anything else at the moment, and it is fairly certain that silence will be maintained in the circumstances. The regrettable feature of the whole sorry business is that men with the education of Mr. Tang and Dr. Sun should associate themselves with such an absurd movement as that now exposed.

Japan to be Supreme in Asia

The following is from *The Labour Leader*, London, of January 11, 1917, and is republished chiefly to show that at least one British paper has a seeing eye. The article also affords further evidence of the movement exposed above:

Now, when the white races in Europe are struggling with each other for supremacy, not only in Europe but in the Eastern and Southern parts of the world, we feel sure that the following remarkable deliverance from Japan will be read with no little interest. We are indebted to the Indian *Modern World* for drawing attention to the pronouncement, which appears in the *Japan Magazine*:—

The sun is full of caprice; it has its likes and dislikes, declares Mr. Unosuke Wakamiya in the *Chao Koron*, and so it will finally decide the white man's fate as to occupation and exploitation of the tropics. On the yellow, the white, and the black races the sun has different effects; the king of day decides where races shall and shall not live. If one race trespasses on another, the sun will eventually come to the rescue. It is no use for races to defy the lord of light.

The sun favours the yellow man most; it places him in the largest and richest part of the world, and very probably he is the original representative of mankind, the first man. The three races mentioned occupy different portions of the globe. Of late, however, trespassing has begun. The white man has started to defy the sun; but he has neither the right nor the power to domineer over the yellow man; he can never succeed in planting himself permanently in Asia, which is the rightful home of the yellow man. He is likewise excluded from the home of the black man, by the same insistent sun.

The white man is now at the zenith of his power and glory, and has assumed the dictatorship of mankind. But he has failed in his attempted conquest of the tropics, the climate of which proves fatal to him and his offspring. His adventure has turned out morally and physically disastrous to him. He cannot endure the races of the East nor the sun that created them. Yet, strange to say, though nature bans the white man from the tropics, she has made him dependent on tropical products. His tea, coffee, cocoa, dyes, and fruits; his cotton and tobacco; his rubber and numerous other necessaries of civilisation, all come from the tropics. But the sun decides that he shall obtain them through the yellow man, and not come to take them himself. He must be satisfied to purchase what he needs from Asia, and not try to take the country as well. It is, indeed, wonderful to what pains nature has gone to exclude the white man from Asia. The natives of tropical countries have a normal temperature lower than that of the European at home, so that a white man arriving in the tropics inevitably suffers from a rise of bodily temperature and becomes liable to tropical diseases of all kinds.

Thus the native can easily live where the white man will die. To be completely acclimatized that white man has to perform the miracle of lowering his natural temperature in the tropics; but this takes several generations, after which the tropics have conquered him, and he is no longer a white man. In this matter the yellow man has no difficulty at all, for the sun has made him for life in hot climates; the tropics are his home.

The Japanese is a yellow man; he has the warm blood of the south; his temperature is normally below that of the European; and the cry of "Southward Ho!" is most natural to him. Japan, and not Europe or America, is to be supreme in Asia.

THE WEST RIVER SURVEY OF 1915

[REPORT SUBMITTED BY THE CHIEF ENGINEER, CAPTAIN G. W. OLIVECRONA TO ADMIRAL TAN HSIA-HENG, DIRECTOR GENERAL OF THE BOARD OF CONSERVANCY WORKS OF KWANGTUNG]

In his introductory remarks Admiral Tan Hsia-heng, Director General of the Kwangtung Conservancy Board, says:

"During recent years, the Province of Kwangtung has repeatedly suffered from disastrous floods, especially in the districts along the Si Kiang or West River. Whenever the upper parts of the river swelled, the dykes of the various districts along the river banks within the prefectures of Kwang Chow and Shao King were either submerged or washed away, and the loss of life and property among the inhabitants was terrible.

"The flood of 1914 exceeded in height and violence those of the preceeding years and as a consequence thereof, the gentry, the leading merchants, the charity committees and other classes of people held a meeting in Canton to discuss the question, how to regulate the river. The meeting resulted in representatives from among the people being elected to go to Peking with a view to obtain approval of the Central Government for a practical solution of the question.

"At that time I was in my village superintending the repairing of the dykes at Tienho, and the Metropolis Officers belonging to Kwangtung sent me a telegram urging me to proceed to the capital. On receipt of the telegram I decided to undertake the trip at once. Upon my arrival there a meeting was held and the whole body of the Metropolis Officers was of the one opinion, that these disastrous floods should, once for all, be prevented by improvement and regulation of the rivers. The President formally appointed me Director General of the Board of Conservancy Works of Kwangtung.

"In my opinion the first step to be taken was to arrange for an inspection of the rivers by an expert. I therefore wired the Board of Foreign Affairs to instruct Mr. von Heidenstam, the Engineer-in-chief of the Whangpoo Conservancy Board at Shanghai, to come down to Canton, and on his arrival I arranged to go with him to inspect the most important rivers of Kwangtung.

"At the end of the trip Mr. von Heidenstam submitted a 'Memorandum on the question of protection against floods in the West River,' in which he formulated a detailed programme and estimate for the necessary survey of the West River. On my request for assistance in selecting a suitable candidate for the post of chief engineer and surveyor of the Board, he recommended Captain G. W. Olivecrona. Immediately after Mr. Olivecrona took up his post, surveying parties were recruited and work was commenced on the 1st of June, 1915. By January, 1916, the survey of the West River was completed. In addition to this report, one hundred and ten drawings of different kinds of surveys have been produced."

The report of Captain Olivecrona is a document of 118 printed pages which comprise an exhaustive study of the problems of flood control and their application to the West River system. The following is an abstract of those parts of the report of more or less general interest.

ADMIRAL TAN HSIA-HENG, DIRECTOR GENERAL

The devastating floods which in June, 1914, visited the basin of the West River, North River and most parts of the Canton delta brought forward the question of a general investigation of the causes and results of the exceptionally high level of the river during the above mentioned time. According to concordant information received from the population living in the flooded districts, never during the last seventy years had the water of the river reached so high a level. All other information supports the statement that the floods of 1914 reached an elevation seldom before known. However, the lack of reliable observations covering a sufficient period of time makes it impossible to verify these statements.

The harvest in the flooded districts having been destroyed, the rural population suffered enormous economic losses. Communications were interrupted, trade was rendered difficult and in some cases even impossible, and a general cry for the adoption of measures to prevent a repetition of similar catastrophes arose from all classes.

By request of the Director General of the Board of Conservancy Works, His Excellency Admiral Tan Hsia-heng, an inspection was made by Mr. H. von Heidenstam, Engineer-in-Chief of Whangpoo Conservancy Board, who submitted a "Memorandum regarding the question of protection against floods in the West River." In this interesting report Mr. von Heidenstam strongly advised a thorough survey of the West River as a necessary basis for formulation of any scheme, and drew up a detailed programme and estimate for such a survey.

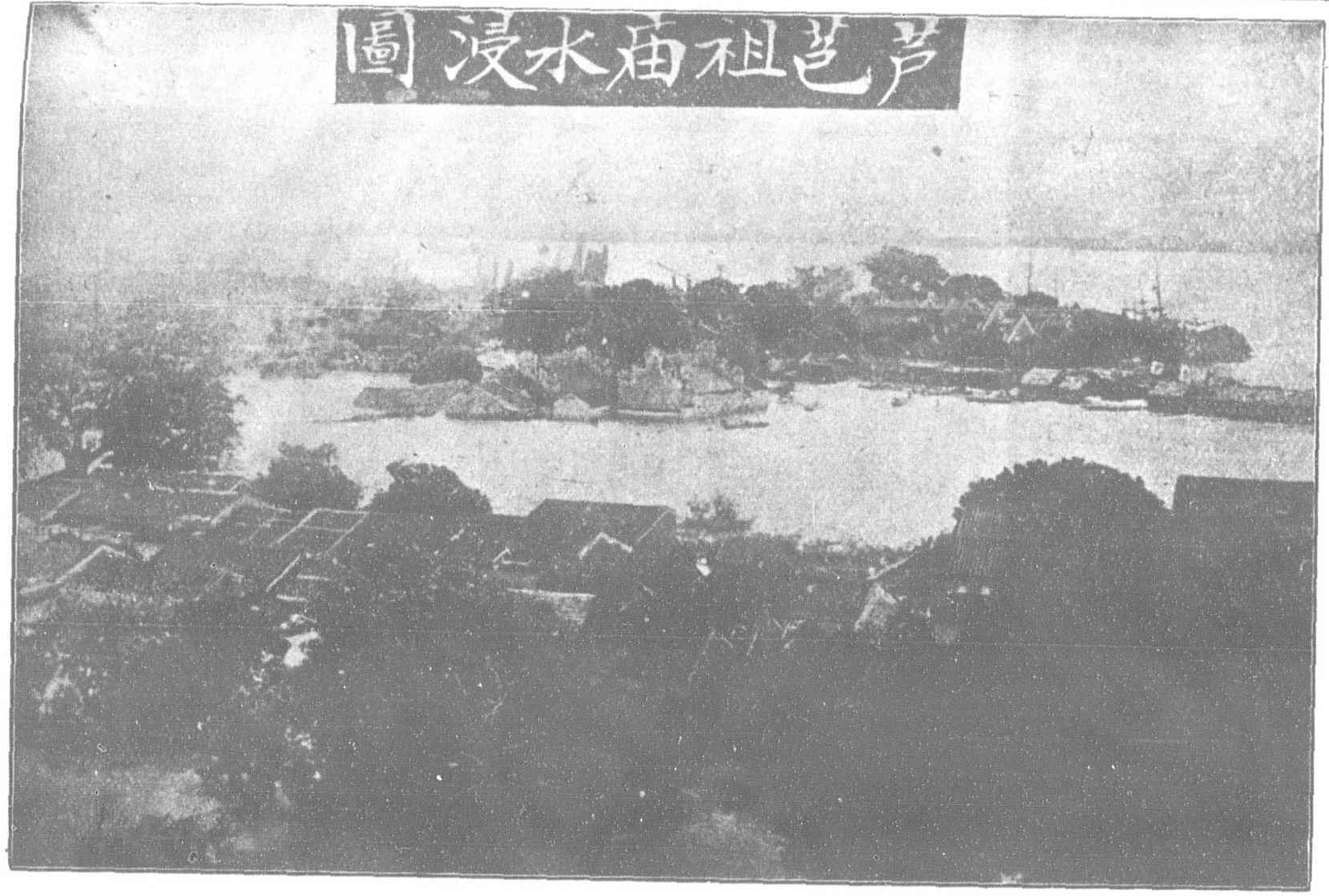
According to Mr. von Heidenstam's suggestion, the total survey work should be divided so as to cover two years; during the first year the surveying and the hydrographical observation work should be completed and observation stations established along the river; during the second year the results of the survey and the observations should be systematized and printed, and a definite scheme for protection against floods be obtained from expert engineers on the basis of the survey.

This programme was approved by the Director General, and I was appointed on the 1st of March, 1915, as Engineer-in-chief in the service of the Board of Conservancy Works of Kwangtung, with instructions to carry out the survey and formulate a preliminary working scheme.

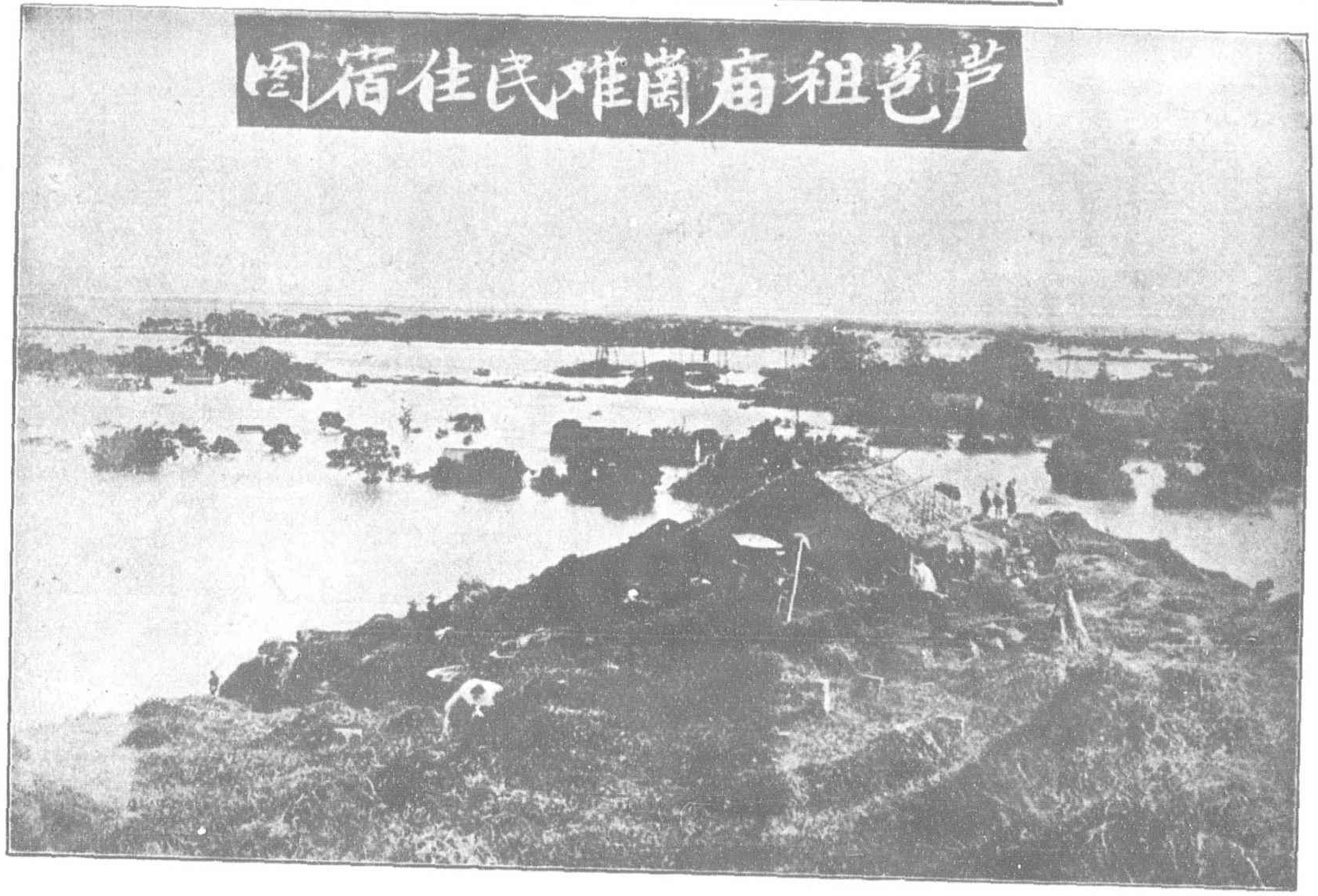
In the main, the above-mentioned programme has been carried out, although some alterations have been made necessary by existing circumstances.

An unforeseen interruption in the course of the survey was caused by the unprecedented height of the floods which in the month of July, 1915, ensued in all the rivers of Kwangtung, submerging the country along the river-beds and most of the Canton delta as well as Canton city. Consequently, for a period of six weeks, only a little surveying work could be carried out. But at the same time an unparalleled opportunity for acquiring valuable experience as to the effect of the floods was offered and eagerly

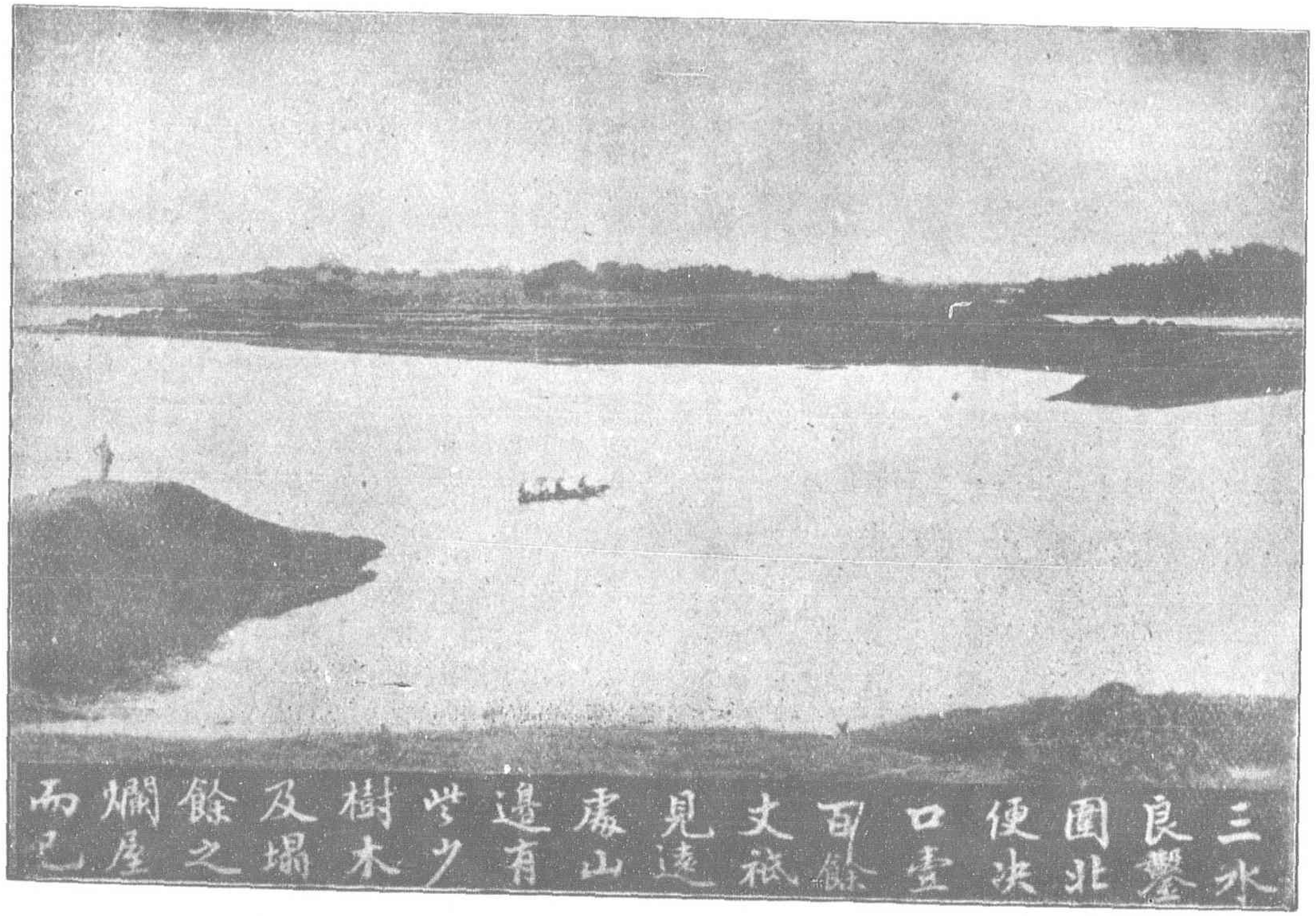
SCENES DURING THE FLOOD OF 1915 IN KWANGTUNG PROVINCE



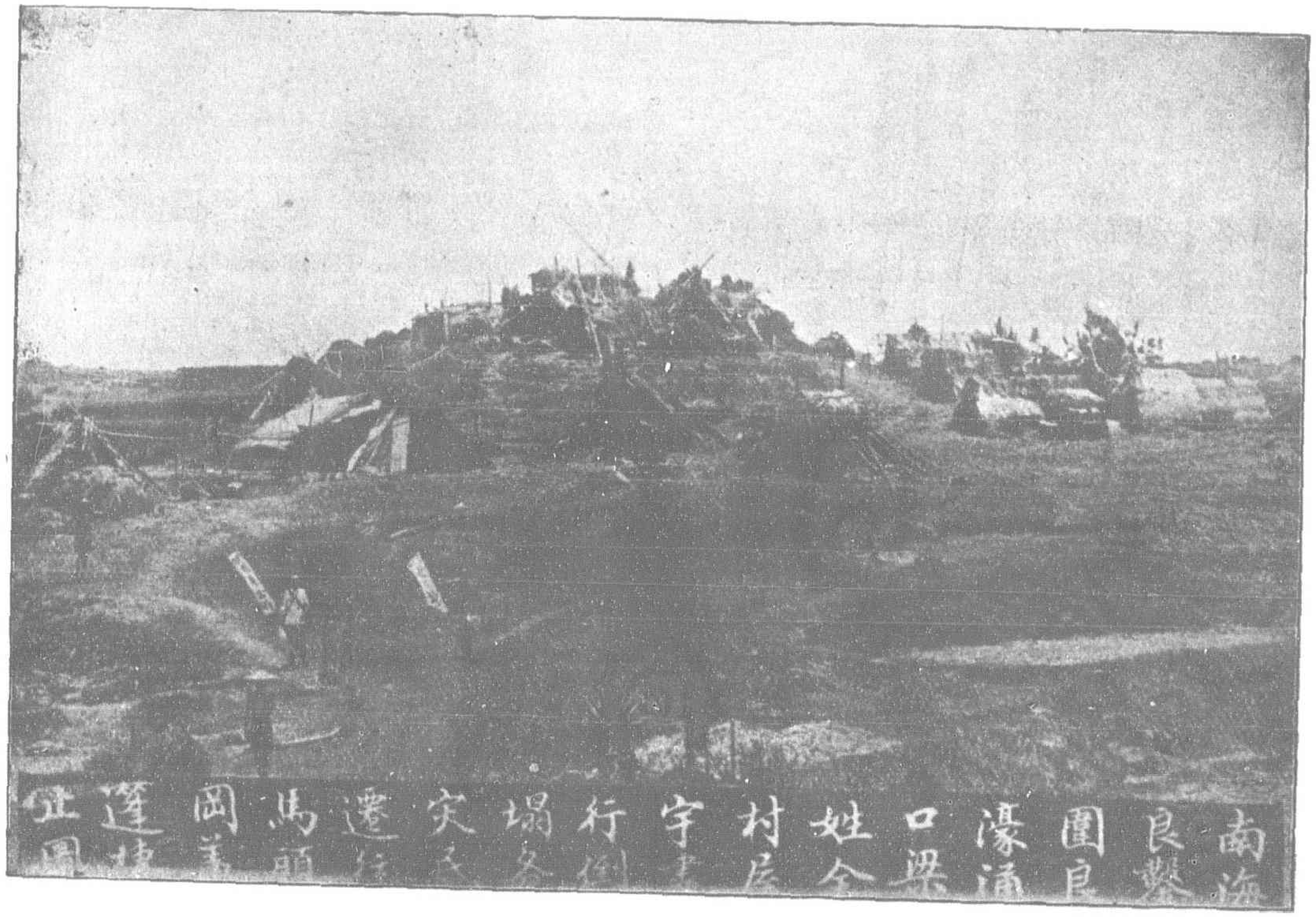
芦芭祖廟水浸圖



芦苞祖廟崗难民住宿圖



三水良鑿圍北便決口壹百餘丈祇見遠處山邊有些少樹木及塌餘之爛屋而已

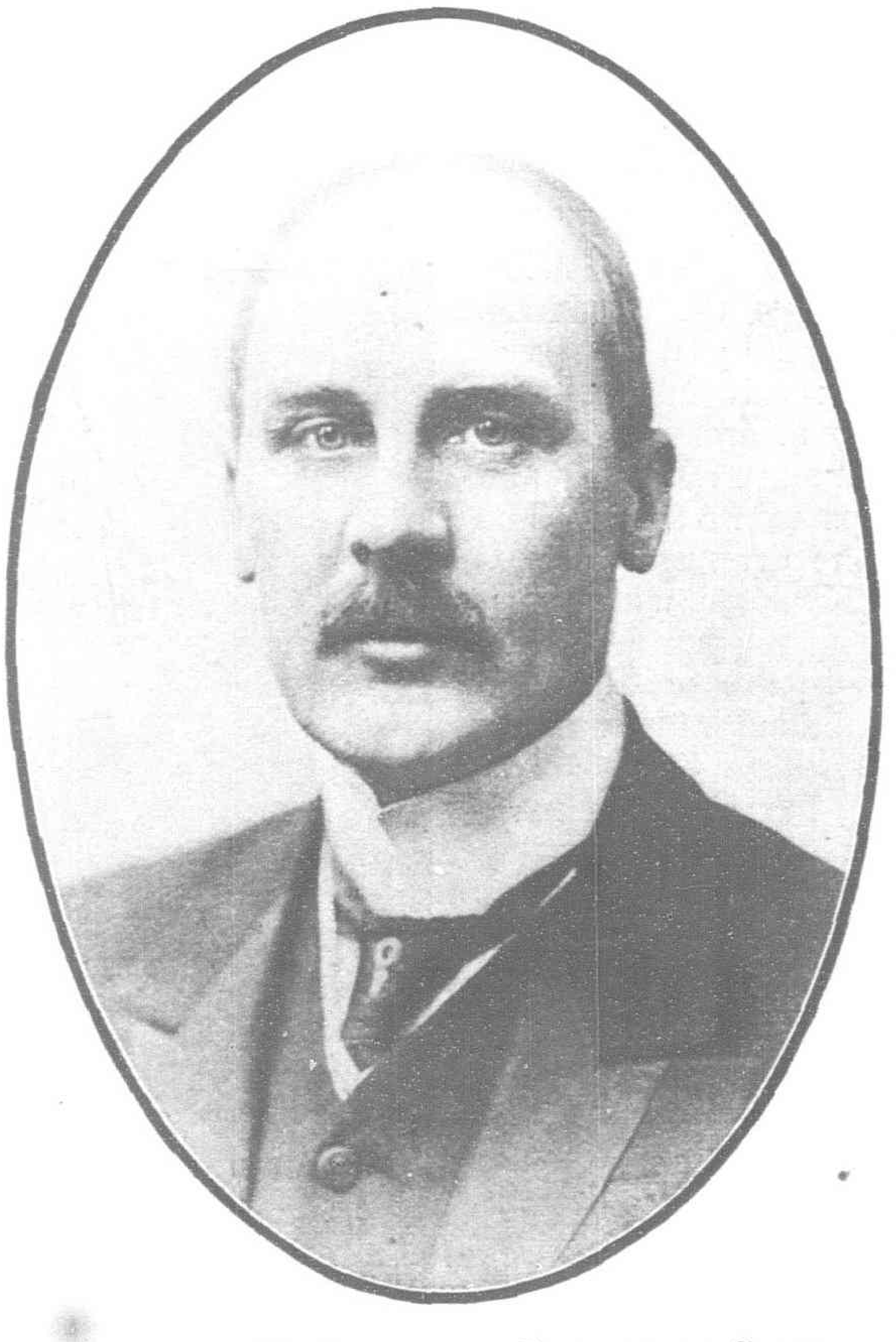


南海良鑿圍良濠涌口梁姓全村屋宇盡行倒塌多实及遷往馬頭岡羊蓮塘並園

seized. At this time, the heavy rains which fell in the upper reaches of the affluents of the West River caused an unprecedented accumulation of water in the lower parts of the rivers. The flood of 1915 considerably exceeded that of 1914.

It is to be hoped that the severe lesson given by the floods of 1915 will call into existence an organization which will perform and superintend those works of regulation and maintenance which are indispensable if safety to the lives and property of the industrious population living in the threatened districts is to be guaranteed. When I took up my duties I immediately made an expedition up the West River as far as to Wuchow under the guidance of the Director General. The further details necessary for the technical performance of the survey were discussed. After returning to Canton I was ordered to depart for Shanghai with the Director General for a further consultation with Mr. v. Heidenstam. Immediately after my return to Canton, the organization of the survey was started, and on the 1st of June, 1915, the different surveying parties left for their respective stations.

The following have constituted the permanent staff. Engineer in Chief: Captain G. W. Olivecrona, C.E., Royal Swedish Corps of Engineers. 1st Assistant Engineer: Mr. C. Kleman, C.E. Assistant Engineers: Mr. H. F. Merrill, C. E., Mr. Fan Tsang Han, Mr. Chen Yu Hsing, Mr. Foo Hok Chung, Mr. Wen Wei Ching, and a number of students from railway and military educational institutions.



CAPTAIN G. W. OLIVECRONA, ENGINEER-IN-CHIEF

The surveying was from the beginning divided into six sections, each section being under the direction of an engineer with a sufficient number of assistants and workmen. Each section had two house-boats at its disposal. The three sections which had been selected for hydrographical work had also the use of one steam-launch each. The Director General had his office in Canton, from which the different parties obtained their equipment and supplies. In connection with the supervision of the survey, the Engineer-in-Chief has been occupied with dyke construction, and has with the Director General visited about a hundred places where dyke breaches had occurred during the recent floods. The local dyke supervisors have in many cases consulted the Board as to the reconstruction of broken embankments, and it seems even at this early stage that the Board is likely to gain the confidence of the population concerned.

The West River proper, or Si Kiang, has its sources in the north-eastern part of Yunnan province near the town Kutsing. It flows at first to the south, receiving tributaries from several lakes on the Yunnan plateau, and then turns near the Tropic of Cancer to a north-easterly direction, which it maintains to the place where the boundaries between Yunnan, Kweichow and Kwangsi meet. It is, up to this place, called Pahtah Ho, but after making a bend to the east the name is changed to Hungshui for a distance of about 370 km. along the frontier between Kweichow and Kwangsi. Hungshui means red water, which name has been applied on account of the red colour which is produced by the silt carried during floods.

On leaving the Kweichow frontier, the main direction becomes southeast, and in this direction the river traverses the whole of Kwangsi province to Wuchow, situated near the frontier of Kwangtung, about 1460 km. from the river's sources. It is here called Si Kiang. Changing its course to easterly, it enters Kwangtung province, makes a sharp bend to the south at Samshui and opens into the South China Sea through several channels east and west of Macao. The total length is about 1790 km. of which 485 km. fall within Yunnan; 370 km. along the borderline; 620 km. within Kwangsi; and 315 km. within Kwangtung. The river is navigable even during the dry season as far as Wuchow for craft having a draft not more than 1.5 m., but beyond this place only for junks and flat-bottomed motor-boats, as several rapids form obstructions difficult to overcome. Small boats may proceed with certainty up to Hingi in Kweichow, a distance of about 850 km. from Wuchow. A river of this magnitude which drains an area of 339,000 square kilometers naturally receives a great number of tributaries, but I will in this context call attention only to the most important of these.

The Yuh Kiang rises in the frontier district between Yunnan and Kwangsi near Kwangnan-fu, its sources being situated within the former province. It joins the West River at Sunchow, 155 km. west of Wuchow. The total length is 840 km. A short distance above Nanning, 470 km. from its sources, the main river receives a tributary, Tso Kiang, running from the mountains at the Tongking border. The river is navigable for shallow-going motor-boats and junks to Nanning the whole year round, and to Poseh for about 9 months. The Pak La River or Yung Kiang rises in the Jao Shan and joins the Si Kiang at Tengyün. From Wuchow to the sea, only smaller rivers enter from the right.

The first tributary of importance met with on the left is, on the Chinese maps, called the Ching Ho. It rises in the north-eastern part of Yunnan, following the frontier between that province and Kweichow in a southerly direction, and has a length of about 160 km. The Hwa Kiang or Pepan Kiang has its sources in south-western Kweichow and joins the Hungshui near Hingi. Its length is some 455 km. The Pope Kiang is about 200 km. in length and rises in South Kweichow. Its junction is situated near a town called Wangai, where the Hungshui leaves the Kweichow boundary and turns to the south. These three rivers are little known and each carries only a small water-quantity, their drainage basins not being very extensive.

The Liu Kiang is the largest of the tributaries from the left, and is by some geographers considered to be the main river instead of the Hungsui. This supposition seems to have arisen from the fact that at the junction of the two rivers the width and depth of the Liu Kiang are greater than those of the Hungshui. It rises in a mountainous region of high elevation, which acts as a condenser of the moist south-western summer monsoons, causing heavy precipitation, and is considered therefore to have a greater discharge than the Hungshui. The length and the drainage basin of the Hungshui are considerably greater than those of the Liu Kiang, and for that reason the former ought to be considered the main river.

Liu Kiang rises in Kweichow in the neighbourhood of the town Tushan, and joins the Hungshui at Siangchow. The Lung Kiang is the largest tributary. This joins the Liu Kiang about 155 km. above the mouth. The Liu Kiang is said to pass through fertile plains but has many rapids. The total length is 525 km.

The Kwei Kiang or Fu Ho flows into the Si Kiang at Wuchow close to the Kwangtung frontier. It drains the north-eastern part of Kwangsi and has its sources on the Hunan frontier. In spite of its many rapids, it is generally navigable for shallow-going boats the whole year round to Kweilin. In its upper course, a channel built B. C. 214 connects the river with the Siang Kiang, which belongs to the Yangtze river system and has its outlet into the Tung-ting Lake. The length of the Kwei Kiang is about 295 km.

The Bamboo River is, properly speaking, a tributary of the Pei Kiang or North River, but has a branch not far from its mouth which cuts through the plains north of Ching-Ki market place, and carries a part of its waters into the West River 4.5 km. above Samshui Reach which latter forms a peculiar connection between the West and North rivers. A channel 1.0 km. long leads the water from the one to the other and vice versa, the direction of flow depending on the different elevation of water level in the two rivers.

The main part of the West River with its tributaries passes through a thoroughly mountainous region. Only the last 140 km. fall within the delta formation. The drainage basin is divided into numerous valleys by huge mountain ranges, traversing the country from the north-west to the south-east. To the north, the Nan-ling mountains form the watershed of the Yangtze basin; to the west, the Yunnan table-land divides the West River basin from that of the Burmese and Tonkinese rivers; while to the south the Juling range and its extension westward form a barrier to the coast land. The rivers have generally cut their channel deep into the valleys. On account of the steep mountains and the gradient of the valleys, the run-off during rainfalls occurs with such rapidity that the water-level rises considerably in a short time, and the rivers swell to foaming torrents which inundate the land and cause erosion and landslides on the mountain slopes. During the 1914 floods, the gauge at Wuchow indicated a rise of 6.76 m. (22 feet) in 24 hrs.

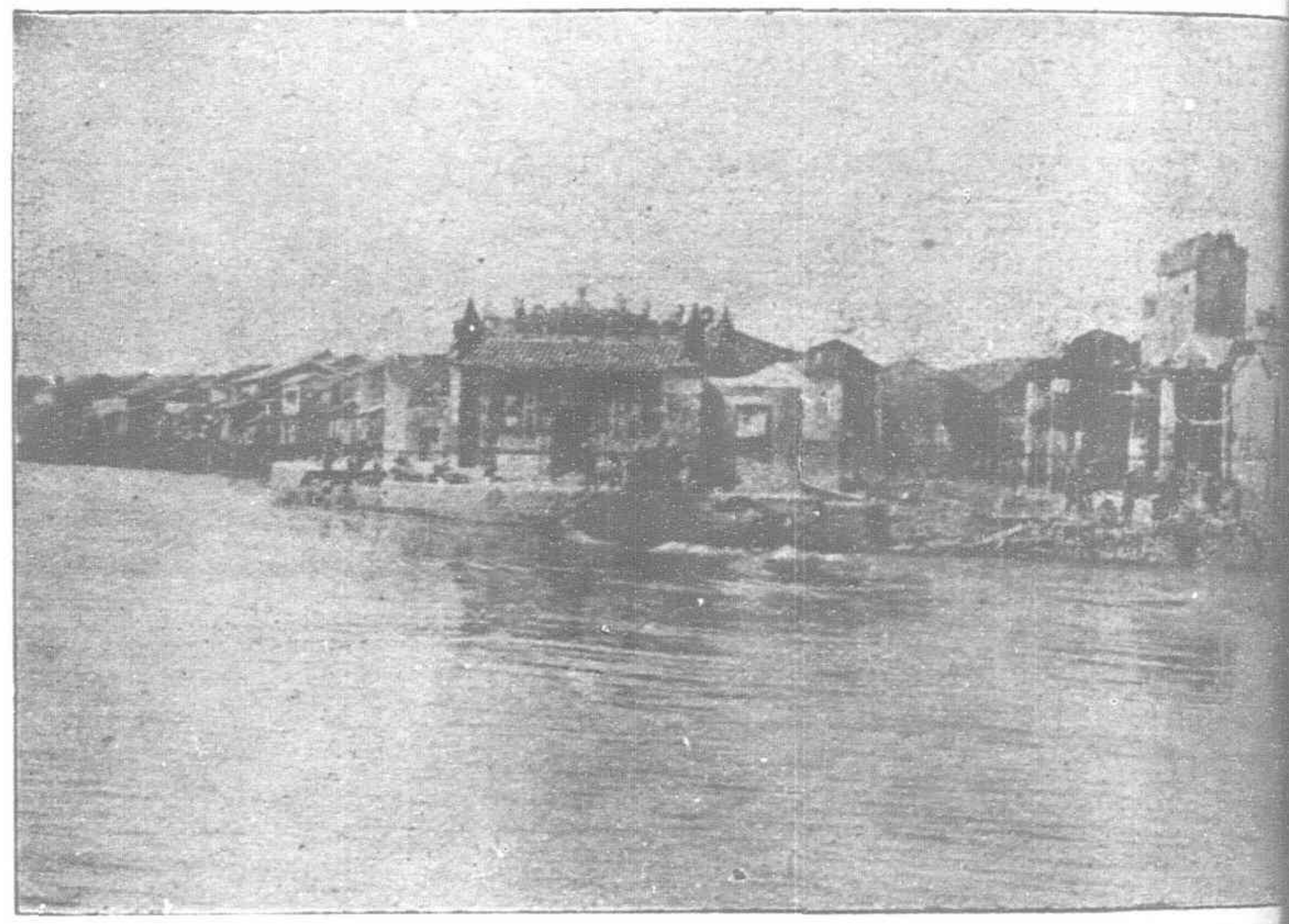
The mountains are generally barren. In the few districts where they are wooded, viz., the upper parts of the Liu Kiang valley, a reckless deforestation is carried on by the natives, which within a time not far hence will result in the total extinction of all forest growth, as an effective afforestation is not provided for. Below Wuchow, the mountains are less steep and covered with grass, shrubs and small clumps of fir-trees. The geological formation of the country within the drainage basin is of limestone and sandstone interspersed in Kwangsi with schist veined with porphyry and granulite, and in Kwangtung with porphyry and granite. A vast granite mass is also to be found to the north of Nanning, and claystone is abundant in the western part of Kwangsi. A more detailed description of the river between Wuchow and the sea, which part has been the main object of the 1915 survey, also is given.

Looked at from the sea, the West River has thus no less than four obviously distinct outlets; viz., at Junk Fleet, Motomoon, Futinmoon, and Ngaemoon. The Canton Delta which includes an area of about 8000 sq. km. forms a vast plain of alluvial soil built up during centuries by the joint action of the three rivers, Si Kiang, Pei Kiang and Tung Kiang.

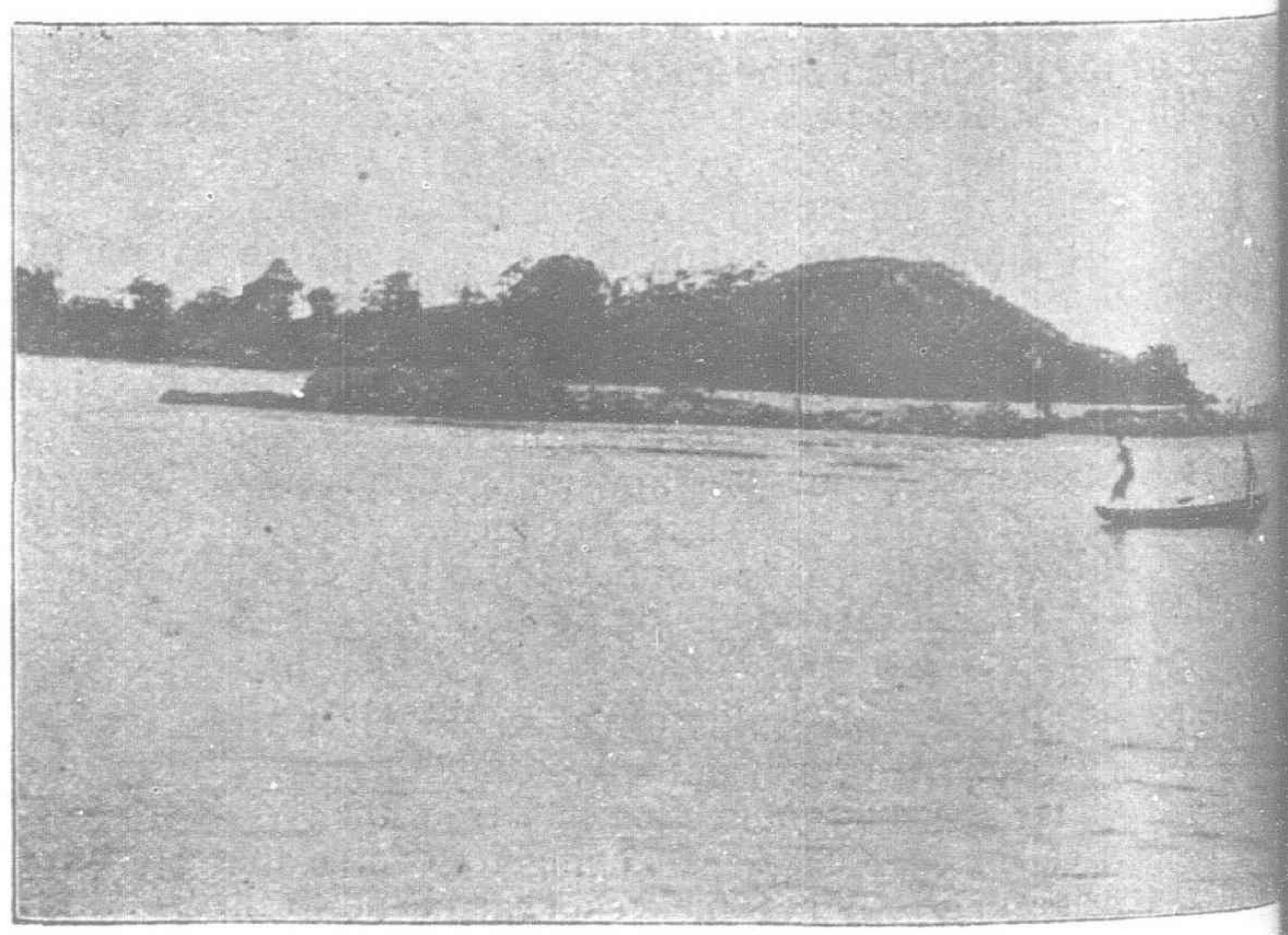
The Pei Kiang or North River rises in the northern part of Kwangsi and flows in a southerly direction as far as Samshui where it turns to the south-east, divides into two branches, the Tam Chau and Shun Tuk channels, which join again near Saiwan, splits into several channels, and finally opens into the sea at Lankit entrance. In its upper course the Pei Kiang receives several tributaries of which Lienchow Kiang entering on the right is the largest. The Tung Kiang or East River comes from the mountains on the boundaries of Kwangtung, Kiangsi and Fukien and empties into the estuary of the Canton or Pearl River. The latter can scarcely be considered as an independent river, being fed principally from the Pei Kiang and draining only an inconsiderable region north-west of Canton city.

The Delta is penetrated by an immense number of channels, formed partly by nature and partly by man, and in many places is dotted with isolated mountains which in ancient times evidently formed parts of the archipelago which surrounded the continent. In prehistoric times the seashore seems to have reached as far as the Ling Yang Gorge, forming a large bay where now the Kwangli enclosure lies, and extending to the White Cloud Mountains to the north of Canton. In this bay the West and North rivers wound their ways between the islands out to the open sea, depositing their silt and successively building up the plains now known as the Nam Hoi and Shun Tak districts. Simultaneously the East River approached from the east, building up land in the same way.

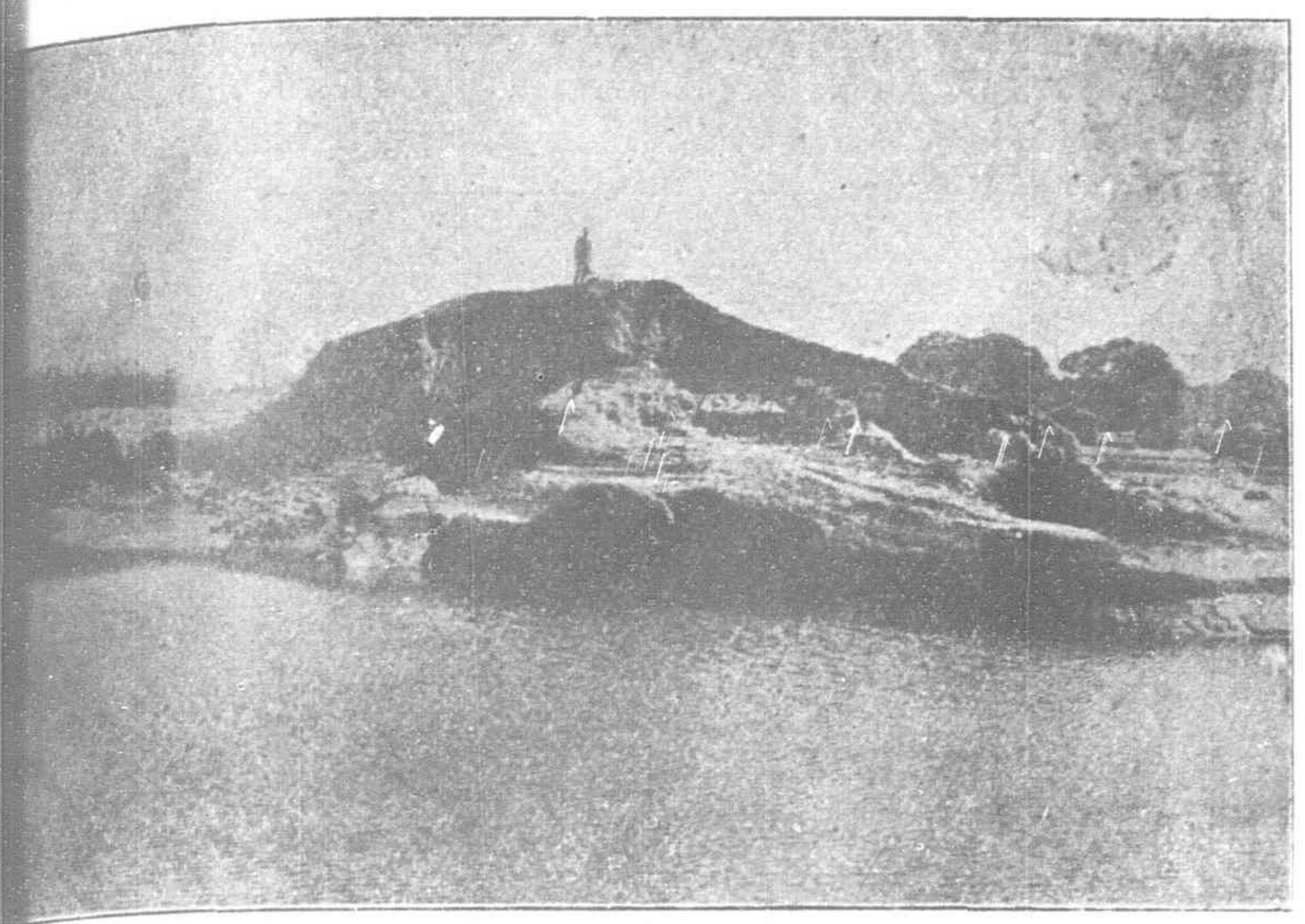
Dyke above Ling Yang G



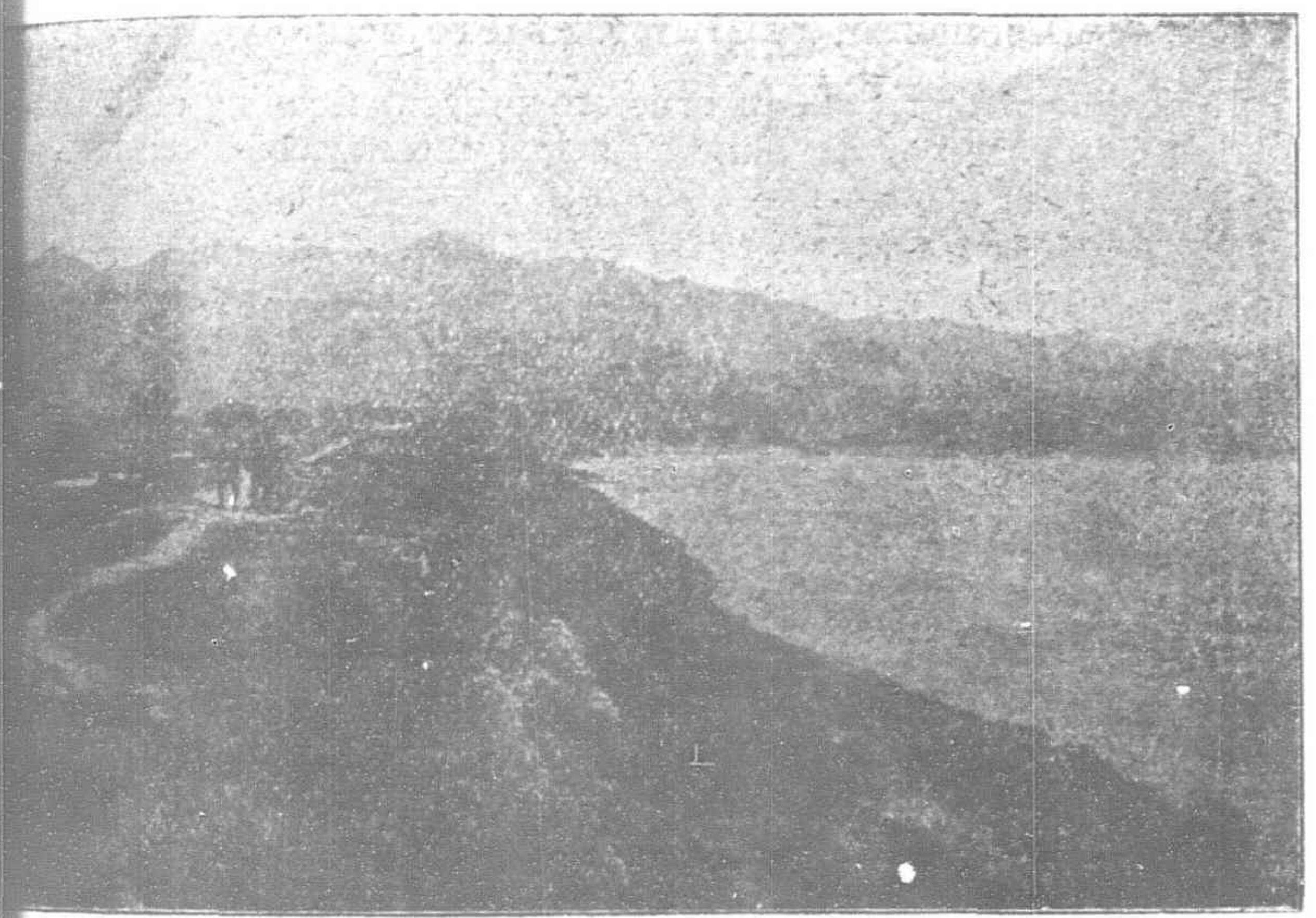
Bunding at Kumchuk Destroyed by F



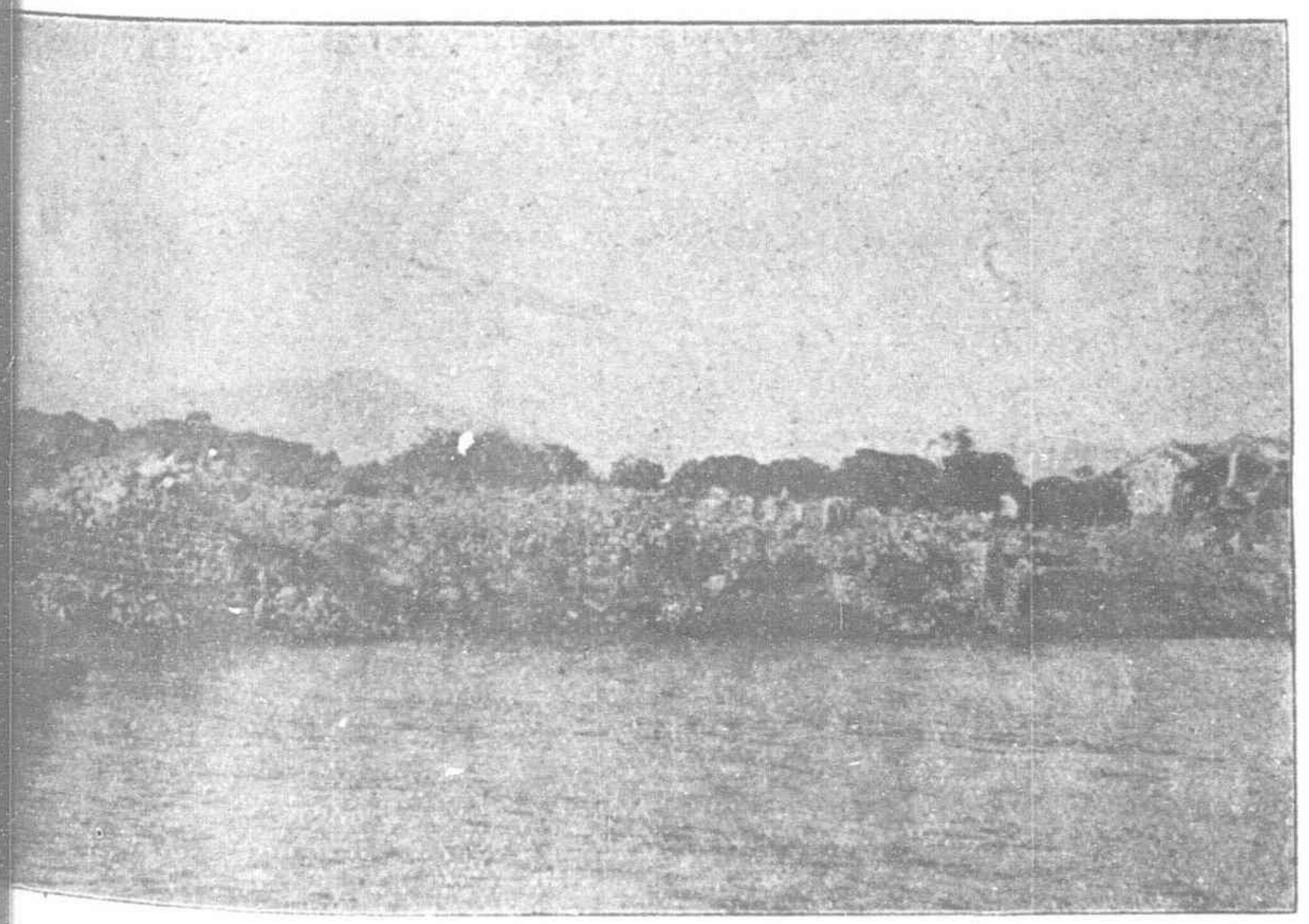
Broken Dyke near Rocky P



Washout in Earth Embankment



Dyke at Taiwan, West River



Shuihing's Crumbling Dyke

The general procedure of a river system, when creating its delta, is to maintain a gradient such as will assure the discharge of water with sufficient velocity to carry the silt away at ordinary stages to the sea. As soon as this gradient is established, the delta is further extended into the sea, and on account of the increased length the height of water at any point along the delta channels of the river is in danger of being raised. At ordinary water level the channels are sufficient for the discharge prevailing, but not at flood-time, when the water overflows the lower banks and causes deposits which gradually build up the channel banks and adjacent plains. Where the current is met by still water, its flow is checked, and the sediment settles and forms banks. These banks together with the usual oscillation of the water in a riverbed from one side to the other, causes the river to meander across the plain, creating convex and concave bends. Sometimes the isthmus separating two bends is cut through by the current and a second channel is created.

This briefly describes the development of the Canton Delta, at least as far as the upper parts of it are concerned. In the lower parts man began to interpose by confining the channels at an early stage within more stable limits by means of embankments. In time of flood the suspended matter was then carried further down instead of settling on the adjacent banks and plains, and the extension seawards of the estuary continued more rapidly. The gradient necessary for the discharge of silt had to be maintained in the upper parts, and the bottom of the channels raised themselves as the channels were lengthened.

There is no doubt that the dyke building, as it is now performed on newly reclaimed land in the lower delta, will rapidly extend the delta towards the sea, and will cause a corresponding rise of the bottom in the upper reaches until a sufficient gradient is established. This will continue until deep water is reached, i.e. as far as Sanchau and Kaulan islands. But a further extension of the bed will be retarded, as the sea is there deeper and not obstructed by islands and shallows, so that the silt will be carried out to deep water and deposited over a large area.

The Ling Yang Gorge controls the water level in the river in the Shiuhing valley. As can be gathered from the high water profile, the slope in the gorge is comparatively steep and the cross-section area of the river is smaller than it is generally above the gorge. The bed of the West River below the Ling Yang Gorge is, as mentioned, built up by alluvial deposits between the hills and mountains. As the course of the main channels in this distance is confined fairly well by the hills and dyke systems, the riverbed does not change to the same extent as is usual, when rivers flow over an alluvial plain. Naturally a great amount of silting and scoring occurs, but it seems to be mostly periodical and in connection with the high floods.

An attempt has been made to determine the amount of suspended matter passing the different sections where water samples have been taken, but the samples have been too few and the variations in the amount of silt too great to give any reliable results. The samples have, however, been analysed and the results are brought together. Assuming that the average value of the matter carried in suspension by the river in a certain moment is the mean between the two values obtained from the examination of one water sample taken near the surface and one near the bottom, it is possible to get some conception of the quantities of silt passing the river section in which the samples were taken. Water samples were thus taken the 15th of September, 1915, at Gailungchow, Chutpolin and Poishui.

Stations	Mean value of silt in kg. per cub. meter of water	Discharge in cub. m. per sec.	Silt in tons during 24 hours
Wuchow	0,488	8,400	354,000
Chutpolin	0,565	8,400	410,000
Poishui	0,277	8,400	201,000

Under the assumptions made, the figures show that on the date above mentioned a quantity of roughly 200,000 tons were deposited between Chutpolin and Poishui in 24 hours. On the 15th of September the tide was just beginning to affect the water level at Poishui, but its influence had not reached Chutpolin.

CANTON & SAMSHUI WERE SUDDENLY CONVERTED INT IVALS OF VENICE BY RAPID RISE IN THE WEST RIVER

THE BUND IN CANTON

BOATING ON CANTON BUND

What part the silt deposits play in the deformation of the river bottom, is at present impossible to ascertain. The experience of navigation of the river establishes the fact that the bottom of the estuary is rising, although this observation has not been, for reasons above given, technically verified. Such a rising in the bottom of the estuary speaks for a similar elevation in the upper course. But this process seems to be a very slow one, as the bottom along the whole river is still on an elevation far below that of the adjacent low-lying country. This proves that part of the silt settled in the upper course is moved afresh when the current in floods has reached a velocity sufficient to keep the silt in suspension.

The Conservancy Board has not been able, on account of the numerical limitation of its staff, to devote any great attention to these matters during the recent survey. But as the continuance of the silting is an important factor to be dealt with in the future regulation of the river, a study of the yearly deformation of the river-bottom should be undertaken and the data obtained recorded.

Hydrography

The catchment areas of the main rivers and their tributaries are:

West River at Samshui	339,000	sq. km.
West River at Wuchow	313,000	„ „
Kwei Kiang at Wuchow	17,000	„ „
Yuh Kiang at Sunchow	85,000	„ „
Yuh Kiang at Nanning	68,000	„ „
Hungshui Kiang at Sunchow	190,000	„ „
Liu Kiang at Hungshui Kiang	58,000	„ „
Hungshui Kiang above Chingho	35,000	„ „
North River at Samshui	49,000	„ „
Bamboo River at North River	7,200	„ „
East River	37,500	„ „
Pearl River	4,600	„ „

At and below Samshui Reach, the catchment area of the West River is not clearly defined.

The three rain-gauge stations, Iliang, Posi, and Amichow, are situated within the drainage basin of the upper Hungshui Kiang and are, together with Yunnanfu, Mengtsz, and Chechuan—situated close outside the watershed—the only recording stations from which any information may be obtained regarding the precipitation affecting this branch of the Si Kiang. The stations command only about one tenth of the drainage basin of the Hungshui Kiang at Sunchow. Consequently no reliable conclusions can be drawn from the rainfall records about the influence on the West River of the Hungshui Kiang and its tributaries. The precipitation tables show that the rainy season on this part of the Yunnan plateau lasts for about six months, from May to October, the rainfall during these months being, in average, about 80 per cent of the yearly total which is about 970 mm. The maximum monthly rainfall at these six stations occurs in August, and amounts to about 22 per cent of the yearly total or 27 per cent of that of the rainy season.

Discussion of Different Projects.

In dealing with rivers, in order to prevent flooding of the adjacent lowlying country, the principal means which can be employed may be classified as follows:

Reducing the catchment basin by leading off the precipitation from a certain part or parts into adjacent river-systems or cutting off existing overflow canals emanating from those systems.

Directing the floods to the sea through new outlets; or to a lower part of the river through circumventing canals, where the cross-section is large enough to discharge an increased water-quantity.

Enlargement of the river bed by dredging the bottom or cutting off the banks at narrow passages.

Regulating the runoff by holding the flood-water in reservoirs for a time and gradually discharging the surplus which otherwise would have caused inundation. This can be obtained by reservoirs in the upper course of the rivers and under certain circumstances by afforestation.

Confining the water within embankments high enough to hold any quantity that is expected to be discharged through the river.

I have investigated the feasibility of applying these different means to the West River and the results have been recorded below under the following headings:

A. Closing the communication between the West and Yangtze River systems through the Singan Canal. Ineffective.

B. Creating a new outlet to the sea. Feasible but too costly.

C. Circumventing canal at Ling Yang gorge. Feasible but not advisable.

D. Enlargement of the present riverbed. Too costly.

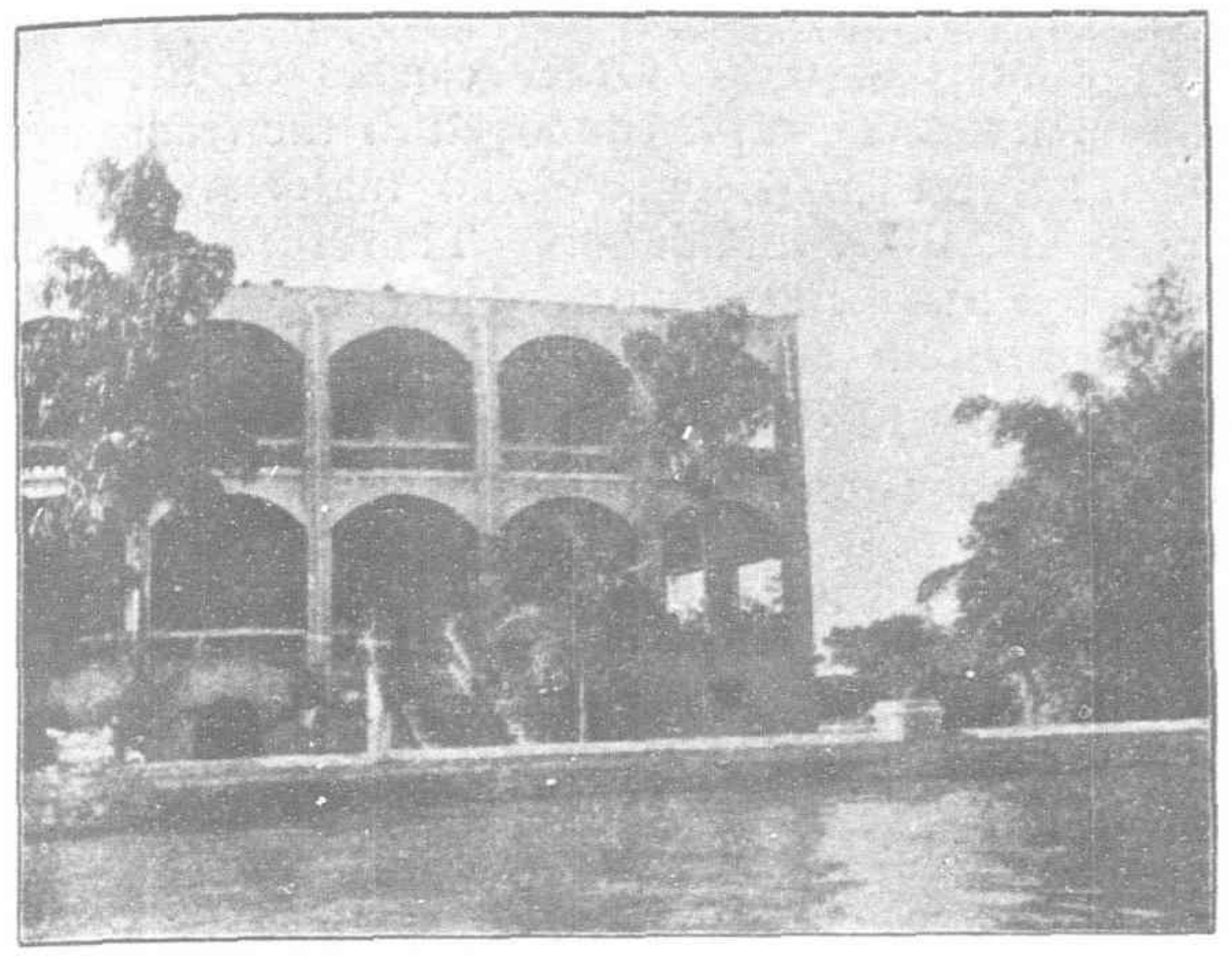
E. Storage reservoirs. Impractical for the time being.

F. Afforestation. An aid but not enough to meet present needs.

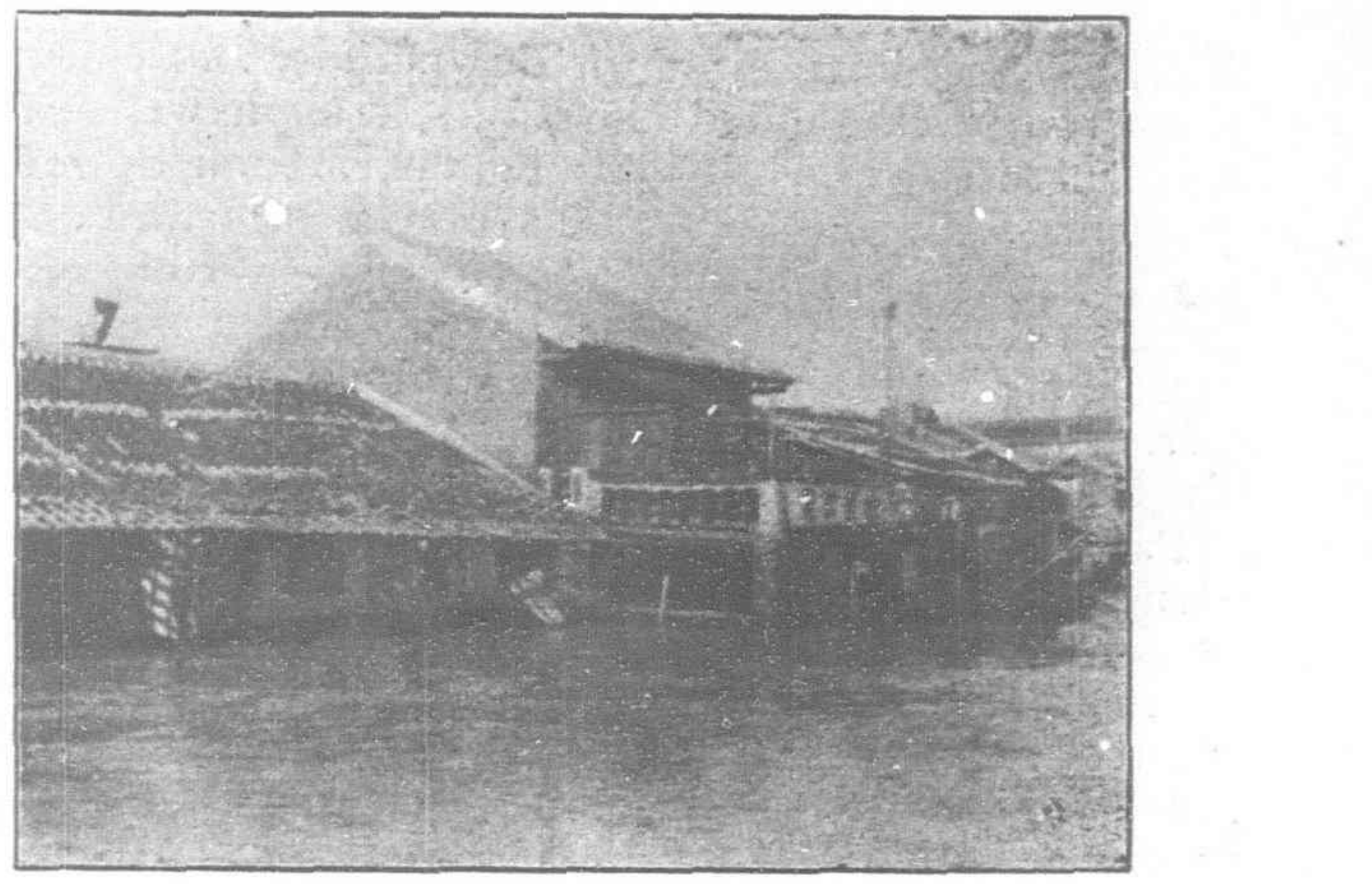
G. Confining the riverbed within embankments (dykes). Recommended.

Conclusions of Engineer.

The general conclusion drawn from the different investigations above recorded may be formulated as follows:



CUSTOMS HOUSE, SAMSHUI



HOUSES ON WEST RIVER BANK

Protection against inundation of the West River valley and the Delta cannot be sought by lowering the high water level, by any of the means enumerated under A—F, as this would not be justified from either an economical or a technical point of view.

The object can however be attained by confining the floods within the limit of the present dyke-systems, provided these are **partly constructed, generally improved and properly maintained to a sufficient elevation.**

After the individual dyke systems are reconstructed the supervisory powers should be withdrawn from the local dyke committees and entrusted to a central supervising organization, acting on behalf of the Government.

The irregularity which characterizes the present dyke districts, especially in the upper delta, calls for an entire reorganization of the old divisions, into which the dykes have been split without due consideration to their function. At present there exists a great number of small enclosures, divided by channels and bordered on one or more sides by the main river or some of its tributaries. The dividing channels, natural or artificial, not being closed by watergates, demand as high and substantial dykes as the main river. By combining several of these small enclosures into one large one, surrounded by a continuous system of main dykes provided with a sufficient number of sluiceways for irrigation and navigation purposes, a higher degree of uniformity and economy would be attained. The total length of main dykes, constructed and maintained to resist the floods, would evidently be less, and the yearly cost of their upkeep, considerably reduced. Within such a large area, it may be necessary to maintain several secondary systems of dykes of a cheaper construction for local purposes, but these will be independent of the main dyke and not exposed to the floods. The prevention of inundation for a district depends entirely upon the main dykes, which should be the property of the Government and maintained out of public funds. The secondary dykes may be the property of one or several villages and may also be maintained by them. If these break because of poor up-keep, the damage will be only local and of slight extent.

A careful investigation in detail of the present dyke districts, not only within the vicinity of the West River, but also along the North and East Rivers; and, last but not least, throughout the delta, must precede any reorganization and systematization of the present division into districts. These investigations should comprise a study of the different districts as to their topographical features, drainage areas, irrigation facilities, the importance of their waterways as means of communication and other circumstances, deciding their future status as independent systems or adjuncts to larger. When the large districts are thus defined, a final scheme for their protection can be developed and regulations for upkeep of the main-dykes and operation of the sluicegates confirmed.

All reclamation of land without the Government sanction along the rivers and in the delta, and construction of main dykes in connection therewith, should be prohibited.

Special regulations concerning navigation in the different channels during time of floods should be confirmed. For example, in narrow channels, where the waves propagated by steamers running at full speed cause erosion of the dyke tops, all traffic should be prohibited during the time of high stages of the water level; in other channels the speed of steamers should be reduced, etc.

Concerning the outlay necessary to bring into effect the improvements above proposed, I refer to the following chapter VIII containing "Preliminary Program and Estimate for first six years' work," which comprises a reconstruction project for the West River between kilometers 160 and 304 together with certain regions along the North River above and below Samshui. The total estimated cost for this project is Hongkong Dollars 11,369,000, divided over a period of six years' work.

This program covers, however, only about **one third** of the total work and cost for a complete reconstruction project of the main dykes and watergates within the total area now subject to inundation in the province of Kwangtung. Roughly estimated the whole amount required for this entire project is, in round figures,

34,000,000 Hongkong Dollars.

Although a considerable amount, this sum might be raised within the Kwangtung province by way of taxation, provided it be distributed over a period covering a sufficient number of years. It would be possible to levy a tax of $2,300,000 a year, to be entirely used for dyke improvements, without burdening the population beyond its power. This yearly contribution should carry the scheme to a finish during **fifteen years' work.** The work in question can as a rule be executed as contract work by the population itself under management of experienced overseers subordinate to the Board of Conservancy Works. The population will thus reap a direct benefit from the capital laid down in the works, and an opportunity to improve their existence will arise for many who now earn a scant living. The nature of the work, most of which will be excavating and filling, stone-paving and concrete-work, does not require purchase of any expensive working plant. Lime and cement are products of the province and may be obtained at reasonable prices. In other words, the capital spent on labour, construction and materials remains within the province, and, if levied on the population as a yearly tax, goes back to the taxpayers.

An effective protection against inundation should within a few years save capital far exceeding that expended on its completion. The loss in property and crops during the floods of 1915 has been estimated at about ten million dollars. The damage caused in 1914 by flood, though of less extent than that of 1915, must be estimated at nearly the same amount.

Besides these direct losses considerable sums are spent in supplying relief to the population in the inundated districts. Several charitable associations, of a semi-official and permanent character, have been organized for that purpose and collect subscriptions from private and public sources, locally as well as abroad. In time of necessity they attend to the distribution of food and money amongst the sufferers. I have been informed that two of these associations, the Tung Wa Hospital in Hongkong and the Kua Cho Kung Sho in Canton, have expended not less than 5,800,000 Hongkong Dollars in relief work during the last eight years, from 1908 to 1915 inclusive. This means a yearly gift to the villagers of 725,000 dollars through these two organizations only. Part of this money has, no doubt, been spent in actual reconstruction work, but want of control of the work has in many cases rendered the repairs of little effect without any permanent improvement being brought about, and the money has been wasted.

These associations have, notwithstanding, done splendid charity work, saving the inhabitants in many a village from starvation and supporting dyke repairs which otherwise would not have been completed. But their character as permanent sources of help, in which the people are accustomed to trust in cases of distress, has given rise to negligence and indifferences on part of the latter in the matter of taking measures for their own safety, and has led them to rely on outside help in disasters, rather than attend to the strength and durability of the dykes.

It being far from my intention to minimize the valuable services rendered by the well-to-do classes of people to their suffering fellow beings, I am nevertheless of the impression that in many cases the benefit yielded by the relief given has not been commensurate with the expenditure; and I would therefore recommend the use of greater prudence in applying the relief funds.

In the face of the heavy losses above referred to, the expenditure of 34 million dollars in permanently removing their primary causes ought not to deter the taxpayer, but on the contrary, ought to be considered as a desirable and justifiable investment.

It has been impossible to correctly ascertain the total area which is under agriculture, or suitable for it, but subject to inundation on account of insufficient dyke protection, because agricultural maps of the country are not yet compiled. A rough estimate has, however, been derived from available maps, though it does not pretend to give more than an approximate idea of the real area.

According to this estimate the total area protected by dykes amounts to 7,100 sq. km. or 8,300,000 Chinese mao. A part of this area includes land not suitable for cultivation, or at present not prepared for agricultural purposes. In order to keep the estimate within safe limits, we will assume this part to cover one third of the whole, or 2,366 sq. km. The remaining 4,734 sq. km., or 5,538,000 mao, represent thus the agricultural land, which within the region in question could be taxed. It is mostly converted into rice-fields.

An estimate of the extent to which this land could be taxed must be based upon a knowledge of the returns derived from its cultivation. But the returns vary with the locality, and therefore the tax levied must be different in different districts. This divergence not being known, an attempt has, however, been made below to estimate the average tax on the total cultivated area, required to raise the necessary yearly funds of 2.3 million dollars for dyke repairs.

In accordance with available information the yearly gross return per mao is $30 to $35 if cultivated with rice; and $35 or more if cultivated with mulberry or fruit trees. Most land is leased out, and a leaseholder pays about $5 per year a mao to the land-owner. This amount deducted from the yearly gross return, leaves to the farmer $25 to $30 as net income from the mao, and has to cover his and his family's living expenses, yearly saving if any, and the maintenance of the estate. Using the above mentioned figures, the yearly tax per mao would thus amount to

$$\frac{2.300.000}{5.538.000} = 0.415$$

or in round numbers *42 cents.* In other words, the farmer has yearly to cede 1.7 to 1.4 per cent of his yearly net profit during fifteen years time to bring the dyke systems to completion. This figure is not prohibitive.

But it is not only the farmers who directly suffer from the repeated flood disasters. Other classes of the population, as merchants, artisans, people employed in the transport trade, etc., are also subject to pecuniary and material losses, when the country is visited by inundation. Therefore, it is only an act of justice to tax these classes also. Generally speaking, the whole population should participate in the expenses in proportion to their ability by a justly applied assessment.

An investigation in this respect should be made, after which a taxation law and regulations in general for the collection of its proceeds can be confirmed.

In order to make it possible to commence the work before the taxation scheme can be put in force, I suggest that necessary funds to meet the expenditure for the first year's work and organization thereof should be raised to an amount of $2,500,000 by a foreign or a domestic loan, guaranteed by the Government Its distribution should be entrusted to the Board of Conservancy Works, which has to prepare plans and estimates for the construction work and be responsible for the proper execution of the same.

JAPAN'S NEW ENTERPRISE IN CHINA

Under the direction of the Government Steel Foundry at Yawata, Kyushu, a steel foundry will shortly be established on a site in the Yangtze Valley not far from the Tayeh iron mine, from which the Government Steel Foundry is obtaining a supply of iron ore in accordance with the agreement entered into between the Japanese and Chinese authorities several years ago. Already a tract of land covering 750,000 tsubo (one tsubo is equal to six square feet) has been purchased by the Japanese authorities at a point near the Tayeh mine, and the engineering work is now going on there under charge of Dr. Oshima and other experts from Japan. As an inundation occurs on the Yangtze every ten years, measures are being taken to elevate the site by over eight feet. Two furnaces, each capable of turning out 400 tons of iron, will be installed in the new foundry there. The work on the new premises will be completed by the end of 1919, and it is stated that it will be able to produce 280,000 tons of pig iron each year.

The annual output of iron ore by the Tayeh mine amounts to 600,000 tons, of which 320,000 tons are supplied to the Government Steel Foundry in Kyushu and the balance to the Hanyehping Steel Foundry near Hankow. Three years hence the output at the Tayeh mine will be increased to 1,500,000 tons, nearly half of which will be supplied to Japan by virtue of the agreement in force.

It may be noted in this connection that a private steel foundry, to be established in Kyushu by joint efforts of the Chinese and Japanese, among them Mr. K. Yasukawa, will also obtain a supply of 60,000 tons of iron ore from the Tayeh mine each year.

STRAITS RESTRICTS LAND LEASES

The Governor of the Straits Settlements has restricted the lease of government land in the colony and the Malay states under British protection, for purposes of mining and rubber planting, to fifty acres for individuals other than British or native. The restriction will affect the Japanese severely. The Japanese Foreign Office, it is reported, is negotiating with the British and the Straits Settlements governments on the matter. The area of rubber plantations worked by Japanese in the Malay Peninsula reaches over 100,000 acres, the capital invested being estimated at 15,000,000 yen. The *Tokyo Asahi* states that the Japanese residents in the peninsula have made representations to Sir Arthur H. Young, the Governor, for removal of the restriction, but apparently without results.

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NATIONALIZATION OF CHINA'S IRON

Nationalization of the metal and mineral output is by no means a new conception in China, but a new interpretation is being put upon it in these latter years as the result of a growing understanding of the functions of a Central Government. The old Imperial regulations hampering the production and transport of gold, iron, copper, coal, and salt, were either prohibitive or restrictive and were promulgated for the safety, profit, or convenience of the Imperial Government and with no other purpose in mind. In those days the only theory of the government was that the Emperor owned the land and all the people in it. Republicanism, little as it is understood, has effectually undermined this theory and all the ancient institutions and laws which have outlived it have to turn their coats to conform. So the traditions restricting the output and transport of such things as iron are now to be interpreted and applied not as restriction in the interest of Peking, but as conservation and development of resources in the interest of the nation. What was decidedly autocratic in the old regime becomes by a mere alteration in terms and spirit almost socialistic. This is particularly true of iron.

Nothing was more closely restricted a century ago than the production and transport of iron and steel. For an autocratic government such hampering of production was the first measure of safety. All the weapons and paraphernalia of war of a few generations back could be cast or hammered out of iron, and if the supply was available an army of any size could be equipped in a very short time by an industrious community of blacksmiths. A rebel leader who had a forge and an unlimited heap of scrap iron had no occasion to go abroad and dicker with foreign agents for support, so the Imperial Government took great care that no great quantity of the dangerous metal was allowed to accumulate in any one district and its shipment from province to province was closely watched. The little metal produced by crude native methods was always sufficient for the arts and industries and the equipment of the Imperial forces. Anything over the needed output was a menace and was to be discouraged.

Foreign intercourse has of course changed all of this. Weapons which can be hammered out of scrap iron are no longer a menace to any government. The native output is by no means sufficient for the arts and industries of the country and the native products, prepared by crude methods, are no longer saleable where they have to compete with imported materials, tools, implements and weapons. There is no important iron mine or manufactory in China which is not in part controlled by foreign capital and which would be entirely at the disposal of the government in an emergency. China exports annually more than two million taels worth of pig iron and ore but she imports nearly six times that value in manufactured products which, with a little encouragement at home, could be made as well and with much cheaper labour.

Privately promoted iron works in China have not been a great success. In ventures requiring big capitalization companies are necessary evils, for individual fortunes are not adequate, and companies in China so frequently end in dissension, the mysterious disappearance of capital, the negotiation of foreign loans, and finally in foreign participation and control, that few have the courage to organize them. Individual attempts at building up industries have so often been discouraged by the tax collector that no one is eager to operate on a scale big enough to attract official attention and the special legislation of ever-poor and ever-tax-hungry provincial authorities. The official practice, contrary to all the laws of economics, always seems to be to tax to a maximum whatever industry is doing most to raise a community above the starvation level. Killing the goose that lays the golden egg is a crime which the average Chinese magistrate will commit without a qualm and even with the self-righteous conviction that he is adding to the national wealth by doing it.

All of this explains in part why China is so weak industrially and why nothing but a government owned and government financed industry can do very much under present conditions to supply domestic needs.

It has been announced recently that the Ministry of Agriculture and Commerce will shortly invest $5,000,000 in the erection of two plants, Model Iron Works, as the nuclei of a system which they hope to make nation wide in the course of a few years. As all of these reforms radiate in these days from Chihli, the metropolitan province, the first works will be established at Luanhsien, which is near iron and coal mines, and $2,000,000 will be appropriated for its establishment. The daily capacity will be about 300 tons of manufactured iron, which is less than a third of that of the Hanyehping works, the first national enterprise, now hopelessly beyond government control. Upon completion of the Central Iron Works at Luanhsien the Government will appropriate another $3,000,000 for the founding of the first branch shops at Pukow, in Kiangsu, from which they will turn out 500 tons of manufactured iron daily. This project, which has assumed large proportions in the minds of the heads of the Government, is presumably dependent for its immediate execution upon the loan of the Chicago bankers, which for the time being has had a serious set back in America, thanks to the rumors of a reviving monarchy movement that have been over-advertised abroad.

The advantages of having a sufficient output of iron and steel within the borders of the country to supply domestic needs and to serve the military ends of the Central Government are too manifest to need emphasis. War conditions in Europe clearly demonstrate that no nation is strictly independent and self sufficient which does not produce at all times enough manufactured steel, and the materials for its manufacture, to meet an emergency, or which does not have a strong enough naval force to keep the channels of trade open. China at present has neither. So far from being independent of foreign countries for war materials, she grows more and more dependent upon foreign countries every year for her very pots, pans, and nails.

An increasing number of technical students return to China from foreign universities every year, prepared to put their knowledge of mining, metallurgy, steel manufacture, mechanics, chemistry, engineering, and so forth, at their country's disposal, and find no field for the exercise of their special knowledge. A well capitalized system of national iron works would afford a field for these men where they would be a hundred times more useful to China than in overfilled government offices where they are given nominal clerkships, adviserships and the like, to keep them out of mischief, as it were.

Government supported or owned mills scattered through the provinces would not be subject to the discouraging tyranny of over-zealous tax collectors and would be guarded against the arbitrary negotiation of foreign loans by the Central Government; freed from which conditions they would add enormously to the wealth of provincial communities, even if they did no more for the Government than pay interest on the investment. There are not more than a half dozen iron mines in all China which are being worked by scientific foreign methods and yet iron is second only to coal in importance among Chinese mineral products, as statistics clearly show. The iron producing provinces are Hupeh, Shansi, Anhui, Szechwan, Manchuria, Yunnan, Hunan, Fukien, and for local use, Shensi. There are workings in all of the other districts, but they are not of commercial importance under present conditions. The only important iron works are the Hanyehping, near Hankow, which are half Japanese, and by special stipulation cannot be taken over by the Chinese Government, and the Hongkong Iron Works, which are of course British and on British territory. The only mines scientifically worked are the Tayeh mines, owned by the Hanyehping Iron Works, and therefore worked under the same international arrangement; the Tungkuanshan mine in Anhui which was formerly a British working and which came under Japanese control in 1912 as security for a loan; the Chinlingchen mines in Shantung, in which German capital was interested and which now comes automatically under Japanese control; and the Pehhsihu mine in Manchuria which is worked by the South Manchuria Railway, also Japanese. In addition to these there are many small native workings in the Yangtze Valley which by private arrangement are controlled by the Japanese, the operators using Japanese capital and being under contract to sell their entire output to Japanese buyers. Nationalization of mines and works would bring many of these minor plants under government control, though those already developed could only be recovered from foreign owners and operators by indemnities and concessions. It would seem that the policy of the government is not to attempt to purchase these holdings and concessions, but to start independently of them and rival them. This perhaps is wise, for the field is large and it will involve much less expense and less bargaining with hard bargainers to build up a whole new system of Chinese mines and works than to buy back the least of those which are now controlled by other interests.

A GUIDE TO FAR EASTERN POLITICS

CONTEMPORARY POLITICS IN THE FAR EAST, by Stanley K. Hornbeck, Ph. D., (D. Appleton and Company, Publishers).

Professor Hornbeck's book is a complete review of modern Oriental political history and a commentary upon it. The writer has had the double advantage of a residence in China, with ample opportunity for intelligent study at first hand, and of a return to the Occident where he has been able to get a perspective upon the East and rub the rough edge off the prejudices which every foreigner in the Orient forms, no matter how scholarly his attitude.

The avowed purpose of the book is to "give within a single cover a brief account of Chinese politics, of Japanese politics, and of some of the outstanding features of the international situation in the Far East". His treatment of his subject leads him first into a general review of the political histories of Japan and China, a cursory study of the development of their political institutions and of native political theory, down to the time of the war between China and Japan in 1894, when the relative position of these two nations in the Far East underwent a tremendous change, and after which the evolution of their domestic politics became so rapid that the numerous changes, and causes of changes, cannot be kept accurately in mind by anyone but a devoted student of political science. Professor Hornbeck's review of the history of these last twenty years is therefore detailed, and the events of the last decade with the political situations growing out of them are given careful study. The trend of the historical review shows how Far Eastern politics and the relative policies of nations interested in the Far East have been hacked out upon China as the scarred and passive chopping block, with Japan playing the most vigorous part—the part of the little man with the big cleaver—while the great powers of Europe, enthused by a spirit of emulation at first, and then by a jealous rivalry, have from time to time joined in a veritable axe-chorus, America playing the part of a spectator most of the time and acting at rare intervals in the capacity of an earnest advocate of the rights of the unfortunate chopping block.

The second half of the work is devoted to contemporary relations between China, Japan, and America with chapters on the parts played by other Powers in the shaping of these relations, notably Great Britain, Russia, and Germany.

In his comment upon Chinese institutions Dr. Hornbeck, who was for a time a resident in the Yangtze Valley and later a professor in the Fengtien Law College at Moukden, shows understanding and that profound sympathy which characterizes all thoughtful residents in the Orient, but he is critical in the scholarly sense and is by no means blind to China's shortcomings.

The same sympathetic attitude characterizes his review of Japan's development up to the era of expansion, after which there is manifest in his comment, still eminently accurate and just as it is, the righteous indignation of an observer who has lived cheek by jowl with the Japanese in the Manchurian metropolis and has had forced upon him at short range a knowledge of their political methods in China and Korea.

A theory on the question of Japanese immigration into California and the delicate diplomatic relations between Japan and

America over the settlement of immigration questions, which Dr. Hornbeck expands at considerable length, will probably be new to most casual readers on the subject. He believes that the constant agitation of this question in Japan, does not grow out of any Japanese desire to colonize the Pacific Coast or out of injured Japanese dignity, but is purposely stirred up from time to time to divert America from Japan's activities in the Orient, in which America might be annoyingly interested if she were not given something else to think about.

"The Japanese government," writes Dr. Hornbeck, "is not desperately solicitous that its subjects shall possess the privilege of holding land in California. Japan's interests do not lie on this side of the Pacific. The Japanese government has no desire to encourage emigration of its subjects to a foreign soil, still less to encourage their expatriation. Expansion in Asia, colonization under the Japanese flag, are what it seeks to promote—and for this purpose Korea and South Manchuria are at Japan's disposal. The Japanese Government, like the German, wishes to keep its subjects within its own dominions. But the California issue supplies Japan with a convenient political weapon. This it can hold over the head of the American government—and it has done so—causing the latter nervousness and embarrassment. This it can use to divert the attention of the American people from the Far East. When we incline to become querulous on the subject of the open door, Japan can say: 'Look at your own discriminatory legislation.' When we presume to complain of Japan's treatment of the Chinese, Japan can refer us to the beam in our own eye. Above all, the Japanese are determined that we shall not interfere with them in their Asian policies—and to that end they will make the most of such situations within our borders as may serve to put us on the defensive and keep our thoughts on our own side of the Pacific."

As a reference book upon several major events in Far Eastern politics, Professor Hornbeck's work is complete and reliable—notably upon the events leading up to the Boxer movement in China, Japan's absorption of Korea, and her present expansion in Manchuria, both commercial and political, and the presentation of the notorious Demands to China in 1915. His appendix also contains valuable notes and documentary material. The weakest feature of the book is perhaps judgment upon and prophesy about Yuan Shih-kai's monarchy movement, but as prophets upon such matters in China are accorded little honor at any time and invariably lose whatever standing they have before they have forecast many Chinese domestic matters, Dr. Hornbeck finds himself here in the distinguished society of nearly all the scholarly Occidentals and statesmen who have been indiscreet enough to voice an opinion about China's immediate future. As a Japanese contemporary published in English says under date of March 11: "It takes a genius to foresee what a turn an event would take in China."

The volume as a whole is a convenient reference book upon a subject which has not heretofore received independent treatment in English. The data of course will not be new to students who have followed modern history in the East with application, for it is not a book of revelations or exposés, but all the material which one ordinarily needs for a study of the subject will be found in a convenient form. The work is moreover raised above the text book class by the frank expression of the writer's own opinions and theories, which have a distinct value coming from a trained student who has viewed his subject at both short and long range.

TRADE CONDITIONS IN HUNAN PROVINCE

The Province of Hunan is located in the interior of China. Its only direct outlet to the sea is by the Yangtze River, with which the city of Changsha is connected by the river Hsiang, says a recent American Consular report. Ocean-going vessels drawing 20 feet are able to make the treaty port of Hankow on the Yangtze River throughout the summer or high-water months of the year. At Hankow goods are transshipped to river steamers with a maximum draft of 7 feet and are brought into the Province of Hunan to be landed either at the treaty port of Yochow, located at the mouth of Tungting Lake, or farther south to the much more important treaty port of Changsha. From Changsha goods are sent into the interior towns and villages by boat, coolie, or wheelbarrow, as the transportation facilities permit. Vessels of slight draft are able to deliver goods shipped from Changsha to a great many of the towns and villages of the Province by reason of the large number of small waterways which feed the three rivers of the Province.

There are no roads in the American sense of the word, such roads as do exist being merely paths, often paved with stone, permitting wheelbarrow, coolie, or chair traffic. A railroad connects Changsha with the coal mines at Pinghsiang, and this road is being rapidly completed between Changsha and the treaty port of Hankow. It is intended in the future to connect Changsha with Canton by rail, but work on this project has been interrupted by the war in Europe.

The Province being thus located in the interior of the country, and its transportation facilities being thus limited, it is natural to find that its merchants have as yet formed no connections with the merchants and dealers of foreign lands, the only exception being a large and very prosperous Chinese mining company, which has maintained its own selling agency in the city of New York since the outbreak of the war and the increased demand for antimony, a metal exported in large quantities from Hunan. Business with foreign countries is completely in the hands of foreign import houses; these have agents resident at Changsha, who visit personally the Chinese dealers to sell their goods or who collect the products of the Province for shipment to foreign countries. These people are assisted in their work by the foreign exchange banks, which have branches at Shanghai and Hankow.

Hunan is chiefly an agricultural Province, although it has large mineral resources which are being rapidly developed. The most commonly exported of its products are beans (to Europe for cattle feed), bristles, grass cloth, human hair, hides, and tea. To these should be added wood oil, which is exported to the United States in large quantities where it is used in the manufacture of quick-drying varnish, and tea oil. Sesame-seed oil and rape-seed oil are exported to a certain extent. Foreign merchants having agents at Hankow have established their warehouses and refineries for the collection and refining of these various products. Hides are collected one at a time by the dealers and sent to the hide-drying yards of the Hankow merchants, where they are treated, graded, and press-packed before shipment. The oils are collected at Hankow and are allowed to settle, and are then graded and put into barrels for shipment. The same procedure is followed in the case of bristles and other raw products. Little of these products go to the United States under the name of the Chinese producer, as the packing, refining, and shipping are entirely in the hands of the foreign export merchant and the products go out under his name.

Among fruits the Province produces the pomelo, oranges of various kinds, plums, pears, peaches, apricots, persimmons, pomegranates, and grapes. Without doubt, the pomelo would be the most marketable of any of these fruits in the American market. It is large, the small juice-containing cells are formed so that the sections of the fruit may be pulled apart without rupturing them, and the juice is very palatable. The persimmons grown in Hunan range from the large ones of the northern part of the Province, which resemble the persimmons grown in Japan in shape and size, to the smaller variety of the southern part of the Province, which resemble the small persimmon that is so common in the southern and eastern parts of the United States. As already stated, oranges are of various kinds. The firm-skinned, round oranges, known locally as coolie oranges, have the sweetest flavor; the loose-skinned oranges are very palatable, but have a quantity of seeds which make them rather a tedious fruit. Kumquats and the piba fruit are also grown but not in large quantities.

THE INDUSTRIAL TRANSFORMATION OF CHINA

The Nature and Necessity of a National Industrial Development

[By Dakuin K. Lien]

"We have enough to do with our foreign debt problem, our currency, taxation, and budgetary problems; we do not want to trouble ourselves any more with the question of industrial development. Let the business men look after that themselves, but let us devote our attention to those questions which more closely concern our national economic policy." Such is, in general, the attitude of most publicists and students of economic science. The latter will not divert their attention to the industrial problem, while the former have little opinion on it, which, to them, is not at all worth while to be made known. The industrial problem does not to them seem to have a close bearing upon our national economic policy, it may even form no national problem at all. Why should we, then, according to them, waste our time in discussing it. and be finally disappointed with our fruitless efforts?

The above attitude is to a great extent responsible for the lack of any well-organized movement for industrial development, and the consequent tardy progress, if progress there is, that has been made during the past few decades in modernizing China in that direction. For, ever since the fifties, the nation has become familiar with the term "industrial development;" to some it means the building of railways and opening up of mines under foreign administration; to others, the establishment of a few factories in treaty ports and commercial centers. But the actual accomplishments hardly even amount to this. The fault, however, does not wholly lie with those who take charge of the work, but the nation at large deserves blame for not giving its active support. The industrial problem has become a popular subject for empty talk, but has never received due attention of the general public in a serious manner. A nation-wide movement is necessary to solve the problem. It is the duty of the publicists and students of economic science to call the people's attention, and stir up their interest in the matter, so that a movement may be started, and, when that is done, to give it national direction and control.

There should be a national movement for solving the industrial problems, for many reasons. In the first place, the problem concerns the people's mode of living, which includes both the materialistic and idealistic aspects of life. Unlike the fairies of ancient Greek, Scotch, or Chinese mythology, the people must have food, clothing, and shelter, and these cannot be had by other than industrial processes. The industrial problem, then, is a national food problem, plus the problems of clothing and shelter. This statement is a sufficient argument to the practical Occidental mind. However, for the over-idealized Chinese, a second argument is better added. It has been said by Kuan-tzu that the people will begin to observe ethical principles when their barns are full. That means that the masses must be fed before they can be taught, and the beautiful superstructure of civilization can only be built upon a solid foundation of bread and butter. On the other hand, if a people had to tax all its vital energy in order to maintain a bare subsistence, it could not possibly attain any high plane of development. Moreover, it would be most productive of bandits, pirates, robbers, criminals, paupers, and all kinds of social degenerates,—a shame and a burden to the nation as well as to mankind in general.

A second reason lies in the effect of the industrial conditions of a nation on the nation's ability of maintaining its existence and independence in the great international economic struggle. It may exist either by maintaining, in its own territories, all kinds of industries necessary to the satisfaction of its economic wants, or by specializing in some one kind in particular, and securing the products of the rest by exchange with other nations. In other words, it may exist either in a self-sufficient state, or in a state of international economic interdependence. It is interdependence, we must remark, and not dependence. That nation which, though specializing in but one kind of industry, has, nevertheless, the moral power of compelling other nations to supply its deficiency, because they cannot supply their own needs without its products, enjoys, under ordinary peaceful conditions, as real an economic independence as a self-sufficient state. On the other hand, a nation cannot long maintain its independence, or even existence, if it can neither produce, nor secure by exchange, all that it needs, but constantly owes a balance of trade to other nations; or if it depends entirely upon the surplus capital of other nations for the development of its industries; or if it also depends, mainly if not wholly, upon such capital for running its government. Our people have now turned their attention to public expenditure as a cause of our indebtedness to foreign countries, but they have not yet seen the significance of this other kind of debt,—the debt in trade. The industrial problem, therefore, is a problem of public debt, of national economic independence, as well as a question of culture and national ideals. It is at once broader and more pressing than it at first seems to be.

We have now seen the significance of the industrial problem, and we also agree, most of us, that our industries are undeveloped. But how much undeveloped we cannot say. We say they are in a backward stage; but what exactly is the nature of the stage, and how far back is it from the general degree of progress? We want our industries to compete with those of other countries; and encouraging the purchase of native goods, together with improvement in their manufacturing, has lately become a fashionable policy; but are such methods adequate for the accomplishment of our ends? These are some questions which we must answer definitely before we can see, with sufficient clearness, the nature of the required solution. We would be satisfied with minor changes and slow developments which need not effect the whole industrial system, if that were all that we need. As a matter of fact, the backwardness of the industrial system is too far, and the step to be taken in order to reach the modern stage of industrial development is too great, for us to be contented with anything but fundamental changes. We are about a hundred and fifty years behind the pioneer industrial nations of Europe in industrial practices, and more than two hundred years in formative ideas. For five or seven generations they have been advancing, while we have staid behind. And now there is a great gulf separating them from us. They have attained the stage of national economy. The unit of their economic community is the nation; that of ours, the town. For a thousand separate towns to compete with consolidated nations, necessarily means that we always get the worst end. Our economic system has existed without any fundamental change since the Chin and Han dynasties, when the Chin-tien or common land system (corresponding to the manorial system of Europe) was broken, until the present time. And now, as a result of the reforms of the last few decades, we have covered over the old economic system with a superficial layer of the modern industrial regime, hardly broad enough to extend over the whole country, with a mere sprinkling of quasimodern factories here and there in this extensive land of undeveloped natural resources. A supreme effort, a national movement supported by all classes of people co-operating in a common cause, is necessary to bring our country beyond the great separating gulf, and transfer her industrial regime to the stage in which the European and American nations now are.

The term "stage of national economy" is adopted from the German economist Karl Buecher, who divides European history, from the point of view of industrial evolution, into three stages and five periods. A study of his analysis will throw light upon our own problem.

(The three stages and five periods of Karl Buecher arranged to show their correspondence.)

I. Stage of Home Economy.
  1. Period of Domestic Work.
  2. Period of Wage-work or Customs Work.

II. Stage of Town Economy.
  3. Period of Handicraft or Price Work.
  4. Period of Commission Work or House Industry.

III. Stage of National Economy.
  5. Period of Factory Work.

By domestic work is meant production mainly for home consumption, as was the case with manorial farmers carrying on weaving in the house. Home cooking is a survival of the system at the present time. Wage-work is custom work, where the individual customers furnish their own materials to be worked upon by the artisans. Village blacksmiths are examples. After the mediaeval towns came into existence, a great transformation took place, and manufacturing began to be carried on under a system of handicraft or price work. Numerous small master-workmen manufactured complete products to be sold at a price, they being at the same time head workmen and entrepreneurs. It may be custom work, or it may not be. That was the economic regime that existed in Europe prior to the Industrial Revolution. A second transitional stage was passed through when the small masters lost their independence and worked for certain "houses" or mercantile establishments on commission, production being still carried on in their individual shops. The last system, namely, that of factory work, is too plain to need elucidation. Its prevalence is a *sine qua non* of the existence of a system of National Economy.

It is to be observed that "a System of National Economy," as used by Buecher, is somehow different in meaning from the same term as used by Frederick List, another great German economist and founder of the Nation School of Political Economy. List speaks of national economy in contradistinction to cosmopolitan or universal economy, as taught by the classical school. His system implies a self-sufficiency in the nation, at least with regard to the most important articles of consumption. On the other hand, Buecher's system does not necessarily involve national self-sufficiency, but it does mean the breaking up of the self-sufficiency of towns. The towns become interdependent, because the economic unit is now the nation. Different parts of the nation specialize in different kinds of products, each part utilising the most suitable natural resources and the best fitted human talents (including common laborers as well as really talented men) for that purpose, and each having the capacity of supplying the whole nation with the kind of products it yields. Usually it does more than this. It even exports its products to other countries to exchange for commodities which the nation lacks. Between these different parts, there is also constant trading, and prices tend to be uniform all over the country, except for the small differences due to reasonable transportation charges. Capital and labor move readily from place to place, and there is no great superfluity of them in one locality with an equally great scarcity in another. Similarly with all kinds of goods in daily use. This means that transportation is rapid and banking facilities complete. It also means the conquering of natural and artificial barriers—natural, as rivers and mountains, artificial, as internal tariff and local currency. Above all, however, it means that business has become national in scope; not only in its trading, but also in its administration, business is no longer restricted to a single locality, a single town, but extends over many localities widely scattered over the whole country. The organization of a large modern corporation is comparable only with that of a national government, comprising many territorial divisions, some of which are even located in foreign countries, like colonies in political organizations. This is even more important than the factory system, because it is business organization which brings together capital and labor, two main factors of production, as well as the producer and the consumer.

With this factor in view, we trace the history of economic development and find the following way of characterizing the three different stages:

I. State of Home Economy.
  No business organization.
II. State of Town Economy.
  Partnership and proprietorship.
III. State of National Economy.
  Corporation.

Having defined the State of National Economy, we shall now survey the industrial conditions of our country, and see whether we are in that stage or not. We shall first have recourse to statistics. Of all the manufacturing establishments included in the statistics of Ministry of Agriculture and Commerce for 1913 (the Second Year of the Republic), published in June, 1915, but not on sale until this year, only 247 used power, and only 904 had each more than one hundred employees in their establishments. The exact numbers were given in another table.

No. of employees.	No. of establishments.
7 to 30..	18,830
30 to 50..	1,145
50 to 100..	833
100 to 500..	726
500 to 1000..	145
1000 up	33
	21,712

It is very noticeable that the number of establishments declines very abruptly as we pass from the first to the second class, and that factories with less than 30 employees make up nearly 87½% of the total number. Again, in the corporation statistics of the same publication, we find only 261 corporations of the modern type organized for manufacturing purposes, with an aggregate capital of $39,244,905.

Even should the other kinds of joint stock companies and partnerships be included in the figure, the total did not exceed 565, with a total capitalization of $49,875,160, a great part of which, no doubt, was not paid up.

The total number of modern corporations, including manufacturing as well as agricultural, commercial, and transportation companies, was 415, and the total capital, $63,833,323. From these we may safely conclude that modern factories run by modern corporations did not exceed 300 in 1913, and there has probably been little increase since. Between 1912 and 1913, for instance, there was an actual decrease. The statistics may not be strictly accurate, but if any is left out, it must be the small workshops and small proprietorships, rather than the big modern factories and modern corporations. Greater accuracy would further reduce the ratio between the latter and the former. Such small numbers for a country like China are certainly insignificant. The bulk of production must still be carried on under the old handicraft system. That system, then, is the industrial regime of China, and the corresponding stages, that of town economy, is the stage of our economic development.

Next, let us picture to ourselves the industrial conditions in our towns. When we walk to the right and left through the business streets of Shanghai, Hankow, Tientsin, or Peking itself, we see workshops and commercial stores standing side by side, of nearly the same size, and with nearly the same appearance. Their premises occupy a frontage of ten to fifteen feet; some have two stories, but seldom more. (We do not include those very rare cases where the buildings are of the Western type, as may be seen on Nanking Road at Shanghai.) The stores and shops are not only mixed up on the same street, but in many cases it is actually impossible to distinguish between the one and the other. Nor will the distinction be made to advantage, for all these small workshops, the most prevalent kind of manufacturing establishments in our country, carry on sales at the place where their goods are manufactured, and frequently both manufacturing and trading are conducted in the same front room. Moreover, many of these "manufacturers" depend mainly, if not wholly, upon make-to-order business, or even upon commission work, where the customers furnish their own materials. Even when they do carry on open sales, the products do not as a rule go out of the town, and seldom beyond the neighbouring streets. They go out of the town only when some merchants happen to know that similar products are sold at a much higher price elsewhere, and order limited quantities of them from the manufacturers. These orders are usually executed by "wholesale" producers, that is, manufacturers who do not retail to the consumers directly, as those we have just described, but sell in a more regular way, namely, through some middlemen or traders. These manufacturers do not open their shops on business streets, but occupy ordinary dwelling houses in sections of the city which we may consider as residential quarters. In both cases,—the cases of the "retail" and the "wholesale" manufacturers,—the "factories" also constitute the residences of the proprietor and master-workman, housing his whole family as well as the journeymen and the apprentices. Therefore, strictly speaking, there is no differentiation between business premises and dwelling houses, between manufacturing establishments and commercial firms, or between retail, wholesale, and residential sections in a Chinese town.

So far as concerns the place of production. Now, if we step into one of those workshops, we find another characteristic which is strongly opposed to industrial development. Productivity can never be much increased when there is no differentiation between the various forms of productive functions, as we have already described in the last paragraph, nor can it be increased when the tools and the processes of production are crude and inefficient. In almost all of our workshops, the tools and the processes have remained the same that they were a few hundred years ago. They involve a good deal of manual labor, much of which is wasted; the results are insignificant, compared with the amount of labor spent upon them; and they do not strictly conform to required standards. Accuracy in workmanship is not a quality that we can boast of. In many cases, much improvement can be effected by a little change in the instruments used. For instance, the modern hand drill is a much more efficient instrument than the Chinese tool, though just as simple. And yet the poor workmen never think of that, and even when they can buy these better tools, they are slow in making use of them. Similar conditions exist in the country and the outskirts of towns, where most of our staple products are produced. The salt industry in Lianghuai (northern part of Kiangsu), the tea industry in Anhui, the cocoon industry around Wusih and Huchow (Wusih in Kiangsu and Huchow in Chekiang), the timber industry in the northwest provinces as well as in Manchuria, and lastly, the rice industry along the Yangtsze River—all these support multitudes of families, and supply the wants of millions more. Yet their tools and processes are equally crude and primitive, although very slight improvements upon them will often increase the productivity beyond calculation. The tea leaves are picked by hand; dried, sorted, and flavored in crude vessels; and packed up for sale and for transportation in clumsy baskets. Salt is obtained either by boiling brine water or by its evaporation in sunshine. In the first case, very thick-bottomed, iron pans are used, and they are placed over fuel which produces a great deal of smoke, whereby the salt crystals are colored and become impure. In the case of evaporation, the pools are lined with wooden boards and a kind of yellow sand—clay and grass and ashes are freely mixed with the solution to facilitate the process of crystallization. In the timber industry, the axes used for felling the trees are often dull, and not well adapted to their particular needs, for hard and soft wood, trunks and branches, are cut with nearly the same kind of axes. The logs are hauled by human labor, with the aid of a few simple and crude capstans and pulley wheels. Rice is planted, manured, and reaped with the hand. That may be necessary because of our peculiar mode of intensive cultivation But thrashing and milling can certainly be done by a better method. A tread-mill would do the work much faster than a turning mill but the Chinese still use the ox as the prime mover. Such, in fact, is the conservatism in our industrial world that improvements are seldom adopted by imitation, much less by invention, which shows that a far-reaching movement, under the leadership of men of superior knowledge, is necessary to the development of our industries. The second characteristic, then, is the inefficiency of tools and processes, and the obstinate clinging to them on the part of the ignorant industrial producers.

A third characteristic is to be found in the business relations of our industrial producers. In the silk industry, for instance, the cocoons are raised by individual families that live in villages around Wusih and Huchow, are bought by dealers who come all the way from Shanghai and Soochow, with cash, which they must bring along with them in boats, and not in railway trains; and finally these cocoons are sold to the numerous small silk factories, each of which deals with a particular dealer or group of dealers known as *pang*. If the silk market at Shanghai, where 75% of the silk factories of the country are located (factories which produce silk yarns, and not silk fabrics, for these are made in individual families or *hu*), is not active, then the producers at Wusih suffer a great deal of loss through depression of price. and they cannot relieve themselves by sending their products to other places, because they do not know where to send, and cannot afford to advance the transportation expenses and wait for the returns from sales some months later. In 1913, there were 142,005 families in the township of Wusih which raised 49,537,195 catties of cocoons, averaging about 350 catties per family. The total value was $20,201,681, or about 40 cents per catty.* It is therefore not to be expected that a small family, which produces but $140 worth of cocoons a year, will take the initiative to market its products at some unknown locality, where they may or may not be sold at all. These producers are therefore entirely at the mercy of the dealers; the dealers in turn are at the mercy of the factories, which are again controlled by the market conditions, implying to some extent the conditions of foreign demand. Similarly, in the salt industry, the small producers or *chao-hu* are at the mercy of the dealers, and the dealers at the mercy of the rich salt merchants, who, unlike the proprietors of the silk factories, enjoy a complete monopoly under government license in the marketing territories known as *ying-an*, and determine the amount of production as well as the price of the product with a regard solely to their own benefit. In a word, the small producers in each line of industry are dependent upon a particular set of merchants, who more or less form a kind of combination by common agreement, and are made to bear the brunt of sluggish market conditions, whereas any advantage that may accrue from high prices hardly reaches them at all.

From the above review of the industrial conditions of our country, is it still possible to say that the solution of the industrial problem should be left in the hands of those who are directly concerned with it? Is it also possible to expect that the problem may be solved by superficial reforms, as, for instance, by the establishment of a few small factories, in such favorite industries as toilet soap and patent medicine, while leaving the millions of small producers, who supply us with the bulk of our staple commodities, in the same unsatisfactory conditions as we now find them? Undoubtedly not; and that being the case, nothing short of an industrial transformation, which will take our country out of the State of Town Economy and put it into that of National Economy, can effect any solution at all. The whole industrial system must be changed, and the whole nation must be affected. The responsibility of effecting such a change and directing such a transformation is on every member of the nation, but particularly on the publicists and students of economics, because they ought to know the general situations better, and the means by which the transformation can be carried out. Before the Franco-Prussian War of 1870, when Germany was not yet unified politically, and her economic conditions nearly as bad as ours, Frederick List, and a few other economists, started a movement for the economic development of the German nation. They built the first railway; they promoted the organization of the Zollverein or Customs Union; they investigated the economic conditions of the country and directed the development of its industries. And all through her later history, German industries have always received much attention and active co-operation of economists and journalists, until now their products have conquered the whole world. If our people will only have sufficient ambition to improve and willingness to coöperate, it will not be difficult to attain similar results.

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*The figures concerning the cocoon industry are taken from the official report of the Industrial Commissioner of Kiangsu for the second year of the Republic.

In planning for an industrial transformation, special emphasis should be laid upon the improvement of manufacturing industries. Not only because China has been mainly an agricultural country, nor yet because industrial development has become to most people almost synonymous with development in manufacturing, but because that is the thing which will relieve the pressure of our population upon the means of subsistence. As is said in our first paragraphs, the industrial problem is in the first instance a national food problem; so, for that reason, our solution of the problem should begin with an improvement of the standard of living. In an old country, where cultivation has already become very intensive, no amount of improvement in farming will very materially increase its products so as to raise the standard of living and augment the national wealth. Our land is in the stage of diminishing returns, as shown by the ever-decreasing ratio of the actual corn rent to the nominal rent paid year after year by tenants to their landlords.

The returns to farmers per capita, under such conditions, are too small to maintain a comfortable living, and will be even smaller if cultivation becomes more intense. Hence, to give employment to our large population, we need some industry that will give the largest per capita returns to the producer, and at the same time afford employment to the largest number of people. Manufacturing industry, because it embodies more human labor, and can be maintained for a long time in the stage of increasing, or at least constant, returns, is just the thing that suits our purpose. To it, therefore, we should pay more than the usual share of attention.

Moreover, there is a further reason for the special emphasis upon manufacturing industries, which consists in the following peculiarity in our industrial world. In our general survey a few paragraphs back, we pointed out the smallness of our manufacturers' premises, each with a small capital and a small number of men. Running through the list of our wealthy business men, we find among them very few manufacturers, but mostly merchants who make their fortunes by taking advantage of the price differences. Equally rare are educated people in the ranks of industrial producers, the exceptions being the few proprietors of the bigger factories.

On the other hand, in agriculture, although the farmers are not wealthy or educated, most well-to-do and educated people hold land as a form of investment. In commercial pursuits, the salt merchants are perhaps among the richest people of the country, while the old-style bankers, though they cannot compare with the Rothschilds and the Morgans, come next in wealth. These people can read and write, and have some knowledge of the political and industrial conditions of the country. On the other hand, such cases are rarely found in the industrial class, which shows a paucity of talent as well as capital. We must give most help to those who most need it; hence we must pay greater attention to manufacturing industry. However, agriculture and commerce do not receive the lion's share of these two important factors of wealth, namely, capital and human talent, any more than manufacturing. They have some share, but the benefit is monopolized by certain branches of them, and the apportionment is far from satisfactory.

Besides all these economical pursuits of life, much capital is wasted in needless consumption or tied up in useless hoards, and much human energy spent in conventional, unprogressive work, both mental and manual. To effect our industrial transformation, therefore, we need a redistribution of these two factors, and we must have them in a proper degree concentrated and "mobilized" throughout the country. Then, and only then, shall we be able to have in our country a system of National Economy.—*The Chinese Social and Political Science Review*.

CALIFORNIA AND THE JAPANESE

In a recent number received of the "Advocate of Peace" of Washington, D. C., appears an exceedingly interesting article by Mr. K. S. Inui, a Carnegie Peace Institute lecturer, on the change of feeling of Americans toward Japanese in California. After stating how average people are liable to fall into the error of interpreting "the peculiarity of a few or local incidents as the representative phenomenon" of a whole country, Mr. Inui says, the "world must be informed of the recent change of local [California] feeling toward the Japanese for the better in order that we may have an up-to-date observation." He then proceeds to enumerate reasons that have contributed to produce the change. As it is these reasons that interest us most, we give them just as they are stated by Mr. Inui, without comment. He first enumerates those on the Japanese side as follows:

The marked decrease of Japanese immigrants, especially from Hawaii. Those who have come of late years are either of a better class or are returning aliens who already have positions or business here. A majority of those who come now are women, 90 per cent. of whom are home-makers.

Increase of undesirable immigrants from other countries.

The patient and philosophical attitude on the part of the Japanese under adverse conditions. For example: Japanese labourers have virtually been excluded; they have also been deprived of their treaty right of freedom of travel between Hawaii and the mainland, both of which are within the jurisdiction of the United States of America; but they were the first people to send $250,000 for the relief at the time of the San Francisco fire, and they were the first foreign nation to signify their willingness to participate in the Panama Pacific Exposition.

The Japanese realize very deeply their shortcomings and are earnestly trying to correct them, as they believe in the saying that "when they are in Rome they must do as the Romans do."

The better condition of the Japanese on the coast. Heretofore an overwhelming majority of them were labourers, but they are fast becoming small land-owners and merchants. They no longer compete with labourers, but rather give opportunities to them in many cases. This new condition of things insures to the Japanese greater opportunities, which induce the Japanese of the better classes to settle here permanently.

The Japanese have come more in touch with and have more of an understanding of the better classes of American people, because of their knowledge of English and improved social status. As they understand America better their attitude toward America is better, which reflects back upon them. This is true especially of the new generation of the Japanese who mingle with the American children in public schools and playgrounds. These Japanese children have become the living arguments that the Japanese are not only eager to acquire American ideals and acquaint themselves with American institutions, but also that they actually do become assimilated.

The change in Japan's policy with reference to her emigrants. Formerly she discouraged the transference of the loyalty of her people to another country, but now, on the contrary, she encourages her people to become citizens of other countries in which they live and contribute as they can to the welfare of their adopted country. The people themselves are even more ready to throw in their lot with that of the people of their adopted country, and this is particularly the case in California on account of the natural beauty of the country, the climate, and her geographical situation. The few who might return to their native land will be obliged to remain in America, because their children speak only the English language and because of their business interests here.

The Japanese observance of American intentions and purposes. For example, the Japanese are perhaps best observing the wishes of the President of the United States in the matter of neutrality.

More Japanese begin to do business with or co-operate with Americans.

Visits of many leaders from Japan, who act as the interpreters of Japan's real purposes and high aspirations.

The Japanese on the whole have come to understand America's characteristics better; the fact, for instance, that "Uncle Sam has bad manners now and then; but he has an awfully good heart."

Mr. Inui next sums up the reasons on the American side thus:

The difficulty of the anti-Japanese movement in general on account of its un-American nature. It can succeed only in so far as it can manipulate misrepresented and highly exaggerated facts and reasons clothed in garments of narrow patriotism and race superiority or purity, and no further. Furthermore, it has never had the sympathy of business interests, nor has it ever enlisted the broad-minded labourers or socialists who make no national demarkation in promoting the welfare of their fellow wage-earners.

The loss of general sympathy in behalf of the laborites on account of bad leadership and violent conduct of a few, such as Schmidt, San Francisco's ex-mayor; and McNamara, the dynamiter of the Los Angeles "Times," and Tveitmoe, ex-president of the Japanese and Korean Exclusion League and a familiar figure in different penitentiaries.

The lack of labourers on the coast to develop its vast resources.

The Americans have come to know the intentions, ambitions, and desires for the betterment of the Japanese; also that their loyalty is not blindly confined to their native land, but can be readily turned to loyalty to this country or the country to which they have come to live.

A constant and systematic campaign of good-will toward the Orientals on the part of good Americans, such as military escorts furnished by the Panama Pacific International Exposition for the Japanese Commissioners, to say nothing of the untiring work of various religious and educational organizations.

The American understanding and realization of Japan's place in the family of nations, exemplified by the sending of Secretary Knox to the Imperial Japanese funeral—the man of highest official rank who could go out of the country.

More Eastern people who are not biased against the Orientals are coming to the coast. California conditions and institutions are becoming more and more like those of the older and systematic communities of the East—less opportunity for the irresponsible.

The marked increase in the trade opportunities between America and Japan and relative decrease of the same between America and other Eastern countries.

The German and Chinese elements after the outbreak of the European war have been trying to inject anti-Japanese feeling on account of their overjealousy, and are thus antagonizing Americans who are strictly neutral. This is reacting for the good of the Japanese.

The friends of the Allies must naturally sympathize with the Japanese.

Through the constant campaign of many staunch friends of Japan, the American leaders in business, politics, and religion have come to realize the seriousness of the problem; and, further, they realize they have already agitated and legislated too much against the Japanese. On the whole, the people of California have come to know the Japanese better.

"All these forces are working together toward a happy end," says Mr. Inui. "By this I do not mean that there is no room for a marked improvement, nor do I mean that the anti-Japanese agitation has stopped or will stop very shortly. This altogether depends upon just how seriously the American public takes the agitation of such a body as the Japanese and Korean Exclusion League, which has been headed by such a man as I have mentioned, and of some good people who have been led to believe the misrepresented facts and reasons presented by the professional exclusionists and alarmists.

"I have all confidence in the intelligent minds and sound hearts of California, as well as the Republic, to put an end to such a short-sighted movement, originated mostly by naturalized foreigners who refuse to compete with the Japanese in open market, and who also refuse to accept them as members of the brotherhood and co-workers, and who, furthermore, are using Japanese as an argument to bring some more of their kinsmen from southern Europe. All the information I want to bring at this time is that the Pacific Coast feeling toward the Japanese is much better than it was before. Any information to the contrary is being produced for ulterior purposes."

U.S.-JAPANESE PACT WON'T BE AFFECTED

The new United States Immigration Bill will become a law May 1, having been passed by the Senate by a vote of 62 to 19 over the President's veto. This measure contains an anti-alien literacy test clause and had previously been passed over the veto by the House of Representatives. Previous to the passage of the measure in the Senate, Senator James A. Reed of Missouri said that the State Department had informed him that the passage of this bill would result in a misunderstanding with Japan. Senator Henry Cabot Lodge replied that the bill would have no effect on the Gentlemen's Agreement between Japan and the United States.

This question also was touched upon at the meeting of the American Peace Society of Japan held in Tokyo on Lincoln's birthday, when Dr. Doremus Scudder gave an inspiring address on the possibilities of peace coming out of the present conflict and on the better relations between Japan and America. He said the real problem always boils down to the single question of naturalization of Orientals who go to America to live. The labor problem does not trouble as long as the United States is not insulting. Some well worked out scheme like Dr. Gulick's for proportionate immigration might settle the question, he said, but congressional action is slow. Gains and reforms come a bit at a time. The possibility of the United States entering the present war and thus becoming an ally of Japan might help in passing a measure that would satisfactorily settle the question, said Dr. Scudder.

At the conclusion of the meeting the new President of the society, Dr. MacCauley, was introduced by the retiring president, Mr. J. McD. Gardiner, and spoke briefly on the problems of the Pacific. Dr. MacCauley emphasized the fact that not racial but economic differences stood in the way of better understanding between the United States and Japan. He spoke of the work now under way to bring the laboring classes of the two countries into closer contact, and expressed the belief that the importance of this movement can hardly be overestimated.

SINO-JAPANESE RELATIONS

Where Japan has Blundered—A Criticism of Diplomatic Methods

[By Dr. Ukita, Editor of the Taiyo]

Dr. Ukita, Editor of the Taiyo, contributes a long article to his magazine on Japan's diplomacy vis-a-vis China. We translate his article as follows:—

"To put the position in abstract terms, Japan's diplomacy towards China is shaped in accordance with the principle of preserving the integrity of China, as has frequently been declared by successive Japanese Governments, and there is not the least doubt that the Japanese people, too, are unanimous in advocating this principle. The policy, however, admits of two interpretations, namely in a wide and in a narrow sense. **There are cases where partition is even necessary in order to accomplish the ultimate object of preserving the integrity of a State.** The Britain of the 19th century stood by the principle of preserving the integrity of Turkey, but as her line of diplomacy she recognised the independence of Greece in 1830, and the independence of Rumania, Serbia, and Montenegro at the Berlin Conference in 1877. Moreover, she conceded Austria jurisdiction over Bosnia and Herzegovina, while actually securing possession of Cyprus for herself. The preservation of the integrity of China, too, is open to two interpretations. In 1900 an agreement was entered into between Britain and Germany, having for its object the preservation of the integrity of China and commercial freedom. Germany put a narrow construction on the agreement, for in the following year Prince Bulow declared that Manchuria was not included in the compact. At that time Germany was giving Russia a free hand in her development in the East, while planning to lay the foundation of predominant influence in Eastern Europe herself, so it is superfluous to explain the motives which actuated Prince Bulow to make that declaration.

Integrity and Friendship

"Two constructions can be similarly put on Japan's principle of preserving the integrity of China. As a matter of fact, China is incompetent to preserve the integrity of her principal eighteen provinces without enlisting the support of outside Powers. **What Japan can assure the Chinese people with complete confidence is simply that she can preserve the integrity of these principal Chinese provinces on joint responsibility with China, provided that intimate relations are established between the two countries.** The establishment of cordial friendship between Japan and China will eliminate the necessity of Japan's obtaining from China an official pledge that no territory on the Chinese coast shall be ceded to any foreign Power. On the other hand, these pledges, though obtained, would be of no practical value if the relations between these countries are anything but friendly. In such a case, Japan would have to shoulder the whole responsibility of preserving the integrity of China single-handed, but it is impossible for Japan to take upon herself such weighty responsibility.

"As regards Manchuria and Inner Mongolia, in which regions Japan is directly interested, there will be no fear of districts there being ceded to other countries if Japan acts in a circumspect manner. Before the conclusion of the new Russo-Japanese Agreement, however, Japan was not in a position to give any definite pledge in this respect, but the conclusion of the new compact has brought about a marked change in the meaning of the preservation of the integrity of China. **In the face of the Russo-Japanese Agreement, the Anglo-Japanese Alliance, and the Anglo-Russian Entente, there is no reason to suspect that Japan, Russia, and Britain would, either overtly or covertly, take the initiative in causing the partition of China. Each of these three Powers fully appreciates the special interests which Britain, Russia, and Japan possess in Tibet, Outer Mongolia, and Manchuria and Inner Mongolia respectively. So long as the Chinese Government makes no blunders in its line of policy in dealing with these territories, it will only accrue to the** advantage of the Powers concerned to maintain the status quo. Now that the Russo-Japanese Agreement has been concluded in conjunction with the Anglo-Japanese Alliance, there is no occasion for Japan to interpret the avowed principle of preserving the integrity of China in a narrow sense. It may even be said that from a wider interpretation of the principle springs the true motives of cementing the relations between Japan and China.

China's Suspicions

"*The reason why China has hitherto been unable to trust Japan is because the Chinese could not understand the exact meaning of the principle of preserving the integrity of China advocated by this country.* Japan's policy towards China has been very unstable since the first Revolution in 1912. It is true that she has occasionally declared to the world her advocacy of the principle of preserving China's integrity, but her actions have not been in strict accord with her avowals. There were, indeed, circumstances that justified the suspicions entertained by the Chinese that Japan instigated the dissension between the North and South, and that she was secretly working for a partition of China. It was the Japanese who always acted in a manner derogatory to the promotion of Sino-Japanese friendship, the importance of which they have so strenuously preached. The Japanese Government has invariably failed to foresee these mistakes. **Thus far, Japan has adopted towards China a diplomacy of gross inconsistency in preaching the necessity of Sino-Japanese friendship and at the same time destroying all that China hoped for. Who will ever regard it as a true manifestation of love to kiss the left cheek and slap the right? Hitherto Japan's diplomacy vis-a-vis China has been running counter to a canon of Bushido, viz. bullying the weak. It would be a diplomatic miracle if Sino-Japanese friendship were to result from such a line of diplomacy.**

"The best way to establish the desired intimacy between Japan and China is for the Japanese to formulate the guiding principle of their diplomacy towards China, instead of grumbling about the attitude assumed by the Chinese towards them. When once this guiding principle is established, it is most important that it would be adhered to firmly and unflinchingly. In the Anglo-Japanese Alliance and in the Russo-Japanese Agreement both Great Britain and Russia look to Japan for the maintenance of peace in East Asia, and consequently Japan is charged with the mission of protecting China and India. This is probably what the so-called 'Asiatic Monroe Doctrine' means. **Now that Japan has deprived Germany of her colony at Tsingtau, it need scarcely be said that China cannot cede any territory on the east coast to any country without first consulting Japan. This point can be definitely settled after the war with the consent of Germany. Whatever pledges may be exacted from the Chinese Government at the present time, they are, to all intents and purposes, scraps of paper. As China has no real strength to meet foreign pressure, Japan must come to her aid in such emergency, and must carry out a policy appropriate for protecting her own interests with her actual power.** In this way, Japan must ever pursue a protective policy towards China.

Mistaken Hostility towards Yuan Shih-kai

"It was, therefore, a serious blunder on the part of the Japanese Government that it often adopted towards China a policy that inspired in the Chinese mind suspicions regarding

Japan's true motives. Since the death of President Yuan, there has been no improvement in the attitude of the Chinese people towards Japan, contrary to the expectations of some Japanese. It was a radical mistake for the Japanese people to hate the late President with greater intensity than the Chinese themselves. It ought to have made no difference to the Japanese whether Yuan Shih-kai was a former vassal of the Manchu dynasty or not. Japan is not China, so it is not correct to gauge him according to Japanese ideas. It was, therefore, a serious mistake that the Japanese took exception to Yuan becoming President in spite of the fact that he was formerly a vassal of the Manchu dynasty, and it was a grievous blunder for some Japanese to offer stronger opposition than the Chinese themselves when he attempted to ascend the throne in the closing days of his career. It was for the Chinese to decide whether Yuan Shih-kai should be an Emperor or President, and for them alone. What the Japanese ought to have been concerned about was to determine their national policy towards China, and to demonstrate their sincere attitude on the question of promoting Sino-Japanese friendship. They were, however, forgetful of their duty and were absorbed in making attacks on Yuan Shih-kai. Since that time, there has been no improvement in the attitude of the Chinese people towards this country.

Waiting for Britain and Russia

"As I have mentioned, the Japanese people have so far failed to give any assurances to the Chinese people on the Manchurian and Mongolian questions. This is because Japan has been uncertain about the policies contemplated by Britain and Russia in regard to Tibet and the East. So long as the rivalry between Britain and Russia in Central Asia continued, the Japanese were unable to commit themselves to any definite pledges concerning Chinese territory outside the Eighteen Provinces. **In plain language, the Japanese were desirous of maintaining the integrity of China when this was possible, but were persuaded of the necessity of devising means of protecting their own interests, which is the ultimate object of preserving the integrity of China.** Now, however, we have the Anglo-Russian Entente and the Russo-Japanese Agreement in addition to the Anglo-Japanese Alliance, and have public opinion in America taking the initiative in approving the Asiatic Monroe Doctrine. In these circumstances, Japan has, for the first time, been put in a position to impart definite meaning to her avowed principle of preserving the integrity of China. In default of giving this definite meaning to the principle, it was but natural that Japan's frequent references to the principle and her earnest advocacy of Sino-Japanese friendship should have had no weight in the eyes of the Chinese people.

Two Essential Convictions

"In order to establish the meaning of the principle in question beyond all doubt with a view to effecting a true Sino-Japanese friendship, the Japanese nation ought to possess two mighty convictions. The first is confidence in their own **power to maintain the peace of East Asia single-handed,** in case of emergencies, and to fulfil the duties imposed upon them by the Anglo-Japanese Alliance and the Russo-Japanese Agreement. It is scarcely necessary to point out that such steps as Germany resorted to before the Russo-Japanese war in taking possession of Kiaochau are menacing to the existence and safety of this Empire, to say nothing of their leading to a partition of China, and **Japan must even stake her existence on preventing such steps being taken in future by any foreign Powers.** The second is the firm conviction that with the co-operation of Japan it is impossible for China, which is bigger than the European Continent both in point of area and of population, to be conquered by an alien nation. To gain this conviction, the **Japanese nation must not only believe in their own powers but must also place confidence in the Chinese nation.** If either one of these two important elements is lacking I think the establishment of Sino-Japanese friendship is out of the question.

External Dangers Removed

"Prior to the outbreak of hostilities between Japan and Germany, the dangers to which China was exposed were the rash and unconsidered actions of her own nationals and the partition policy of the Western countries. As the result of the Tsingtau campaign, however, all these evils,—which also constituted the cause of the Russo-Japanese war,—have been removed, and the Japanese nation has formed a firm resolution to perpetuate this result with all its might. Such being the case, so long as the Chinese abstain from any such actions as are calculated to create internal dissensions, they will be free from any danger from outside. The only difficulties lying in the way **are the internal disturbances in China and the selfish and short-sighted views of some Japanese.** If these two evils are eradicated the peace of the East will never be disturbed.

"The Chinese nation, if gifted with any common sense, ought to be conscious of the folly of engaging in internal strife and bringing down upon themselves a series of revolutions, and if the Japanese have any knowledge of the general trend of world affairs they ought to be awake to the inadvisability of provoking in the Chinese mind hatred for them by holding the Chinese in undue contempt. When Sino-Japanese friendship is established, Japan can drive benefits from political and economic co-operation with China in a manner in no wise running counter to the principles of the preservation of territorial integrity and the 'open door' in China. *It will also be part of the rightful interests accruing to Japan to introduce Japanese settlers and capital into Manchuria and Mongolia,* where the population is sparse, and to promote the peace and develop the natural resources of those regions. If Japan should by any chance attempt to secure those districts and thereby earn the resentment of the whole of China, driving her to join hands with Japan's enemy, serious consequences would fall upon this country. However weak China may be, she boasts a population of 400,000,000. Unlike the Indians, the Chinese people are capable of assimilation and co-operation, so it will certainly prove a serious loss to this country, politically and economically, to alienate their good will. The loss of China's good will, moreover, will have the natural effect of inviting the resentment of the Indian people, and of exciting adverse feelings among the Americans, resulting in a considerable falling-off in Japan's trade with India and rendering the solution of Japanese-American questions more difficult. On the contrary, if Sino-Japanese relations are placed on a friendly basis, Japan will at the same time win the trust of the Indian nation and the good feelings of the American people, thus being given an excellent opportunity of securing her free development in the Eastern and Western hemispheres."

BARON HAYASHI ON CO-OPERATION

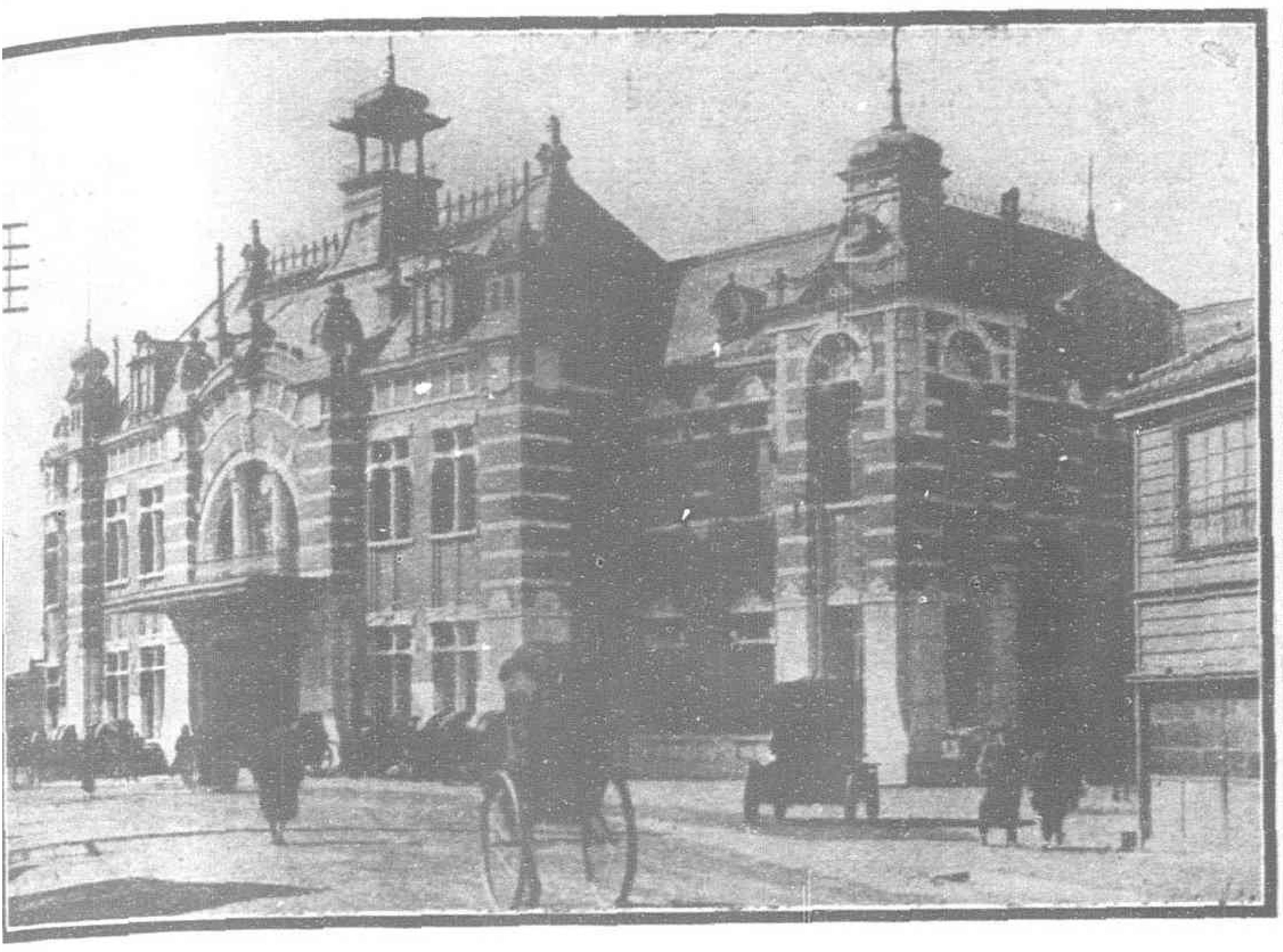
The plans for co-operation between American and Japanese capitalists in developing the resources of China will be a good thing for all parties concerned, is the opinion of Baron Gonsuke Hayashi, Japanese Minister to China, who was interviewed on his recent visit to Tokyo.

"The principle on which these co-operation plans are built is a good one," the Minister said, "and will work great good if the work of opening up the resources of the Chinese Republic is carried out in good faith. Whether the Chinese welcome this new scheme, the agreement between the Japanese and the Americans has been reached, and I am confident that the outcome will be good.

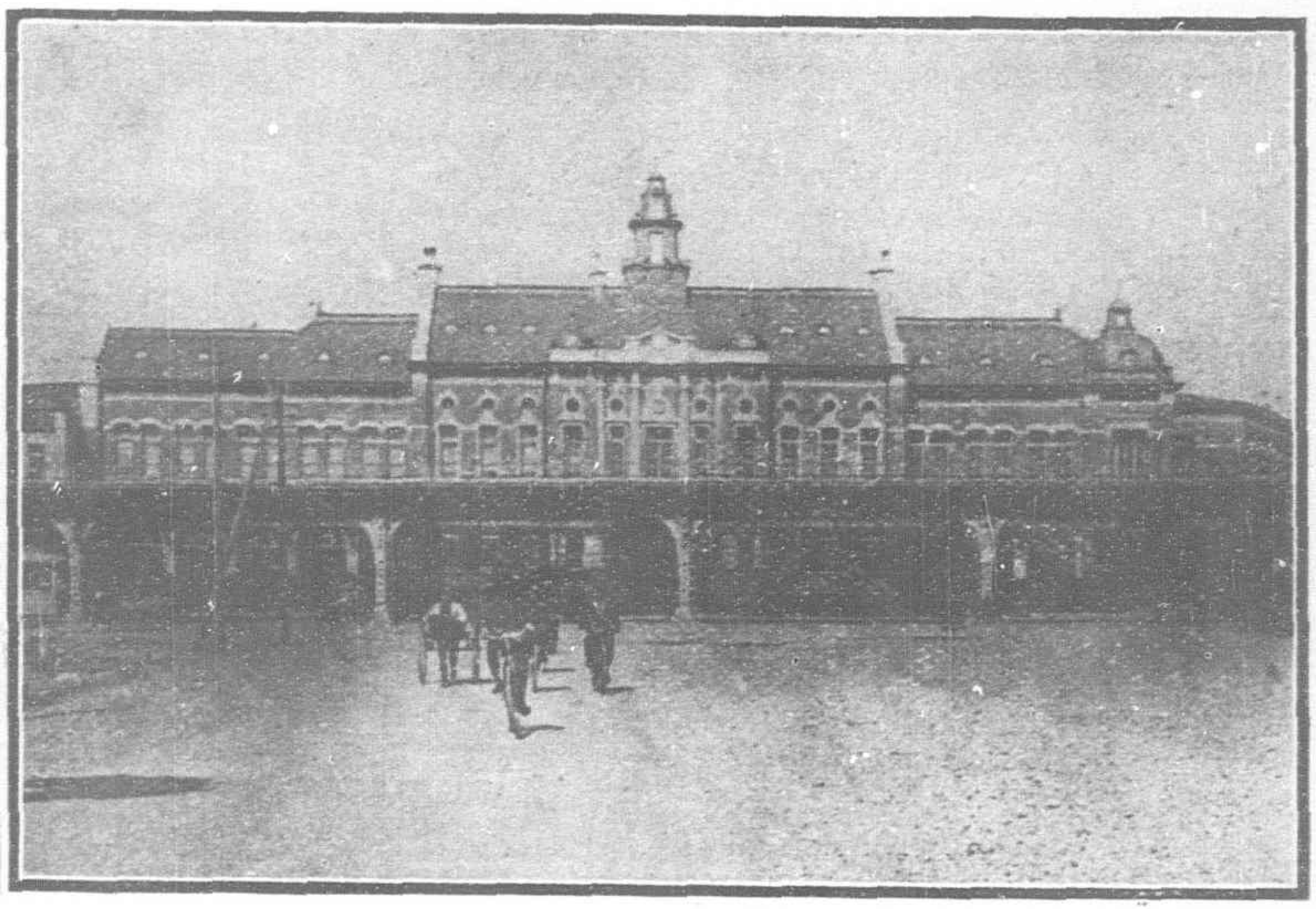
"The relations between Japan and China have always been cordial, except in some of the newspapers. What Japan has done in the past may not have been wrong in the eyes of the Japanese themselves, but other foreign nations, as well as the Chinese, have entertained suspicions about Japan. The same can be said about Russia and other Powers. We must guard against saying or doing anything that may jeopardize our relations with China. We should always keep in mind the good of China in whatever we do there. With China's good secured we can enjoy direct and indirect benefits from this for ourselves."

On the question of the military administration of the Shantung railways by Japan, Baron Hayashi said:

"I travelled through Shantung on my way home. In my opinion the military administration of the Shantung railways can be abandoned if Japan should decide to do so. The conditions in Shantung are such that it can be replaced by civil administration."



New Shimbashi Station



New Yokohama Station

IMPERIAL GOVERNMENT RAILWAYS OF JAPAN

Annual Report for the Year Ending March 31st, 1915.

[General resume submitted by the president to the Minister-President of State]

The total mileage of railways open to traffic at the end of the year under review was 7,766 miles, of which 5,690 miles were represented by the Imperial Government Railways, 1,387 miles by privately-worked railways and light railways, and 689 miles by the South Manchuria Railway. The train mileage totalled 69,766,086 miles, the vehicle mileage 1,217,909,687 miles, the number of passengers carried 216,986,257 and the weight of goods hauled 45,922,115 tons, while the number of passengers carried one mile aggregated 4,176,791,673 and the weight of goods hauled one mile 4,249,944,526 tons. The total earnings derived from the operation amounted to 140,208,221 yen.

The mileage of private tramways open to traffic aggregated 1,196 miles comprising 629 miles of the electric, 195 miles of the steam-worked, 61 miles of the gas-worked, 243 miles of the horse drawn and 68 miles of the *rikisha* (man-drawn) tramways. The number of passengers carried were 702,130,499 and the weight of goods hauled 1,365,486 tons. The earnings derived from the operation amounted to 36,554,087 yen.

The returns for the State lines are as follows:—

Traffic Results

The average mileage of railways open to traffic during the year under review was 5,529.5 miles for passenger traffic and 5,581.9 miles for goods traffic, an increase over the preceding year of 231.5 miles in the former and 237.6 miles in the latter. The train mileage aggregated 57,378,867 miles, the vehicle mileage 1,071,026,208 miles, being 42,724 miles and 11,369,991 miles respectively less than in the preceding year. The number of passengers carried totalled 166,092,421 and the weight of goods moved 35,272,875 tons, a decrease of 1,680,722 in the former and 1,075,487 tons in the latter as compared with the preceding year. The total number of passengers carried one mile were 3,623,743,236 and the aggregate weight of goods moved one mile 2,982,798,481 tons, being 67,221,383 and 71,054,157 tons less than the respective figures for the preceding year.

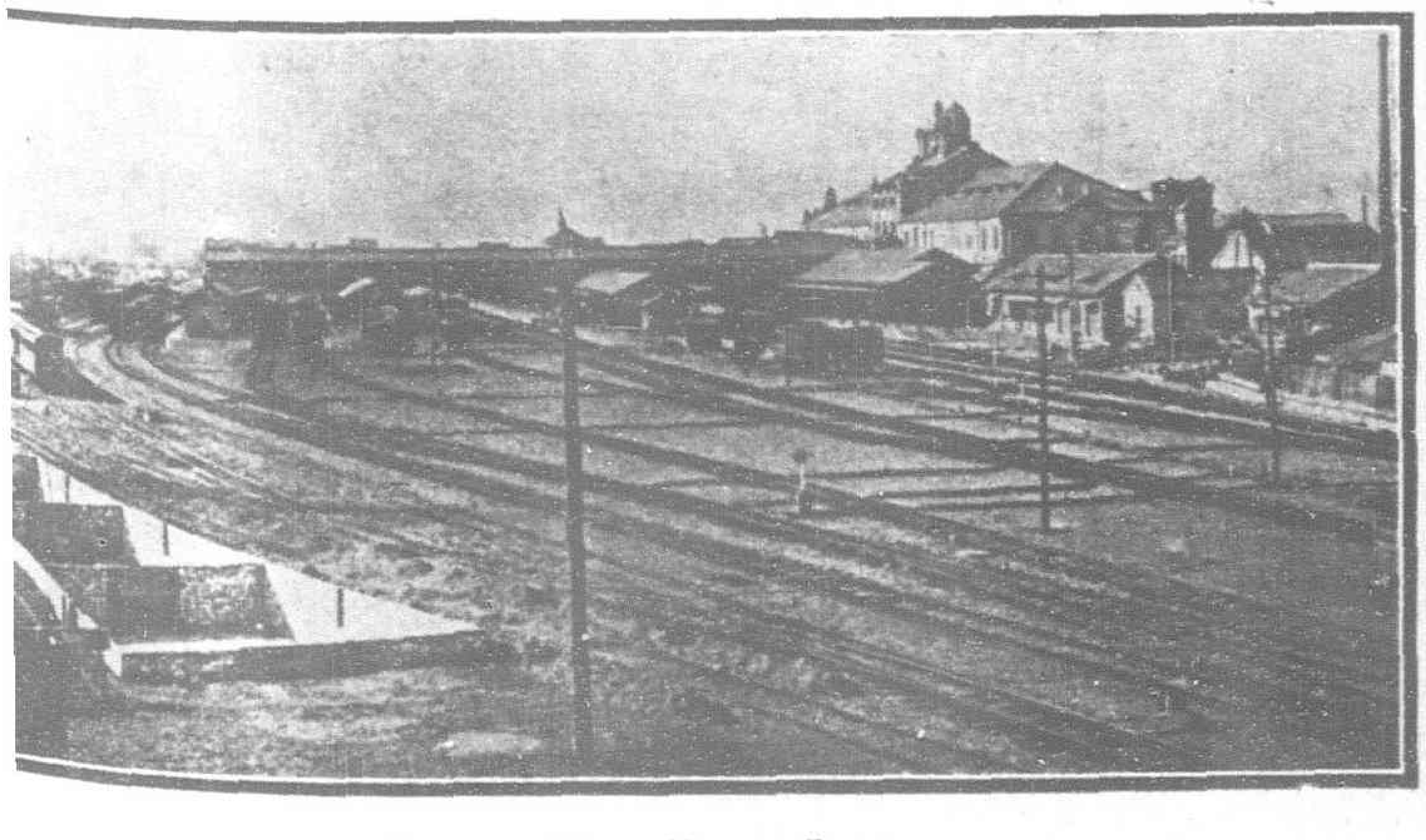
The earnings from the operation amounted to 54,671,971 yen for the coaching service, 51,750,496 yen for the goods wagon, 2,244,105 yen for the shipping and 108,666,572 yen for the total, being a decrease of 2,918,544 yen in the total against the preceding year's figures.

Passenger Traffic

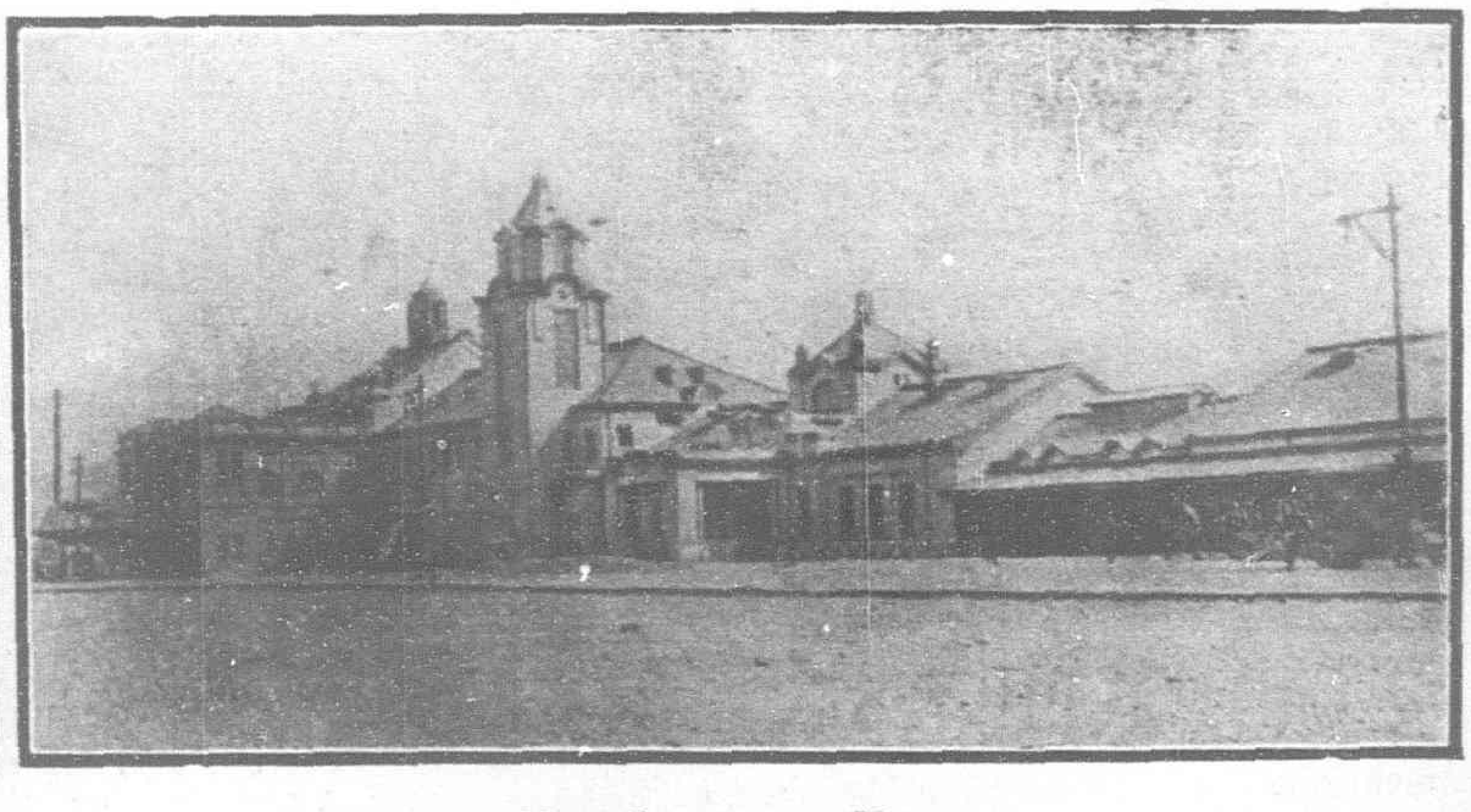
In reviewing the results of passenger traffic during the year under review, it may be noted that in the opening month of the year a general quickening of business was much in evidence owing to the Taisho Exhibition and similar functions held in divers parts of the country, all of which proved successful, when the nation was again plunged in heavy mourning for the demise of the Empress Dowager. In consequence the movement of travellers began to decline day after day. Notwithstanding the fair volume of tourist traffic being returned at the time of summer exodus of city inhabitants, the business continued to fall off and was further depressed by the effect of the World War and the paralysis of traffic due to the serious wash-aways which took place in August and September. In autumn an occasion of lively business was served by the special grand manoeuver as well as the active transport of excursionists to the places noted for the beauty of tinted maple leaves as well as of picnickers on mushroom-gathering, the record of which showed no noteworthy reduction below the level of the average year, but taken altogether, the business returns reflected no signs of revival. Furthermore, heavy snowfall interrupted traffic at several places on the North-Eastern and the Hokkaido Lines. In February and March the transport of party pilgrims to the Holy Mount of Koya began to crowd the lines concerned, but this did not go far to improve the general stagnation with which the year closed.

Goods Traffic

As regards goods traffic, the fair movement of coal, stone and other minerals outstood the end of the preceding year, but the national mourning and the sudden outbreak of the



Yard of New Kyoto Station



New Station at Kyoto

European War demoralized the tone of market, resulting in the heavy reduction of the traffic in general commodities. The business depression was so great that the opening of through service on the Gan-Etsu Line in November failed to elicit such patronage as the new, shorter route deserved. In winter, serious damage was done to traffic owing to heavy snowfall, and this, together with the gloomy outlook of the European situation, operated to keep the general tone in depression till the end of the year under review.

Traffic Arrangement

To mention some of the more important arrangements made for the traffic service during the year under review, the sale of return tickets at regular fares was extended, from June 1st, to all railways which were under joint traffic agreement with the State Railways.

The rules governing the refund of passenger fares were revised and put into force from August 1st whereby the mode of procedure thereanent was remarkably simplified for the benefit of the travelling public.

The work on the new jetties on the premises of Shimonoseki and Moji stations was completed and opened for service on July 1st and September 16th, respectively. The new provisions are expected to facilitate the transhipment of traffic on the rail-and-water connection between the Main Island and the Island of Kyushu.

On February 1st the charges forward system (c. o. d) was introduced as applicable to goods of all classes for the better convenience of business transactions.

Joint Traffic

As regards oversea connection traffic service with Manchuria and Russia via Siberia, the Chosen Railway was added to the list of through passenger traffic routes, while new arrangements were made for introducing the through transport service of Japanese silk to Russia via Siberia. A number of leading points on the Peking-Kalgan, the Peking-Hankow, the Tientsin-Pukow, and the Shanghai-Nanking Railways were added to the list of stations open to the Japan-China through passenger traffic service.

At home, also, joint traffic arrangements were newly concluded with 14 private railways, one tramway, and one steamshipping concern.

During the year under review, traffic expenses amounted to 15,628,158 yen, an increase of 648,699 yen over the preceding year.

The average length of line worked for steamer service in operation during the year under review was 218.3 nautical miles. The number of steamers in commission at the end of the year was 42 representing a gross tonnage of 21,516 tons, of which 6 vessels with a gross tonnage of 6,392 tons were chartered. The trips made during the year numbered 39.756. The expenses incurred by the shipping service during the year amounted to 1,817,307 yen, being 561,778 yen less than in the preceding year.

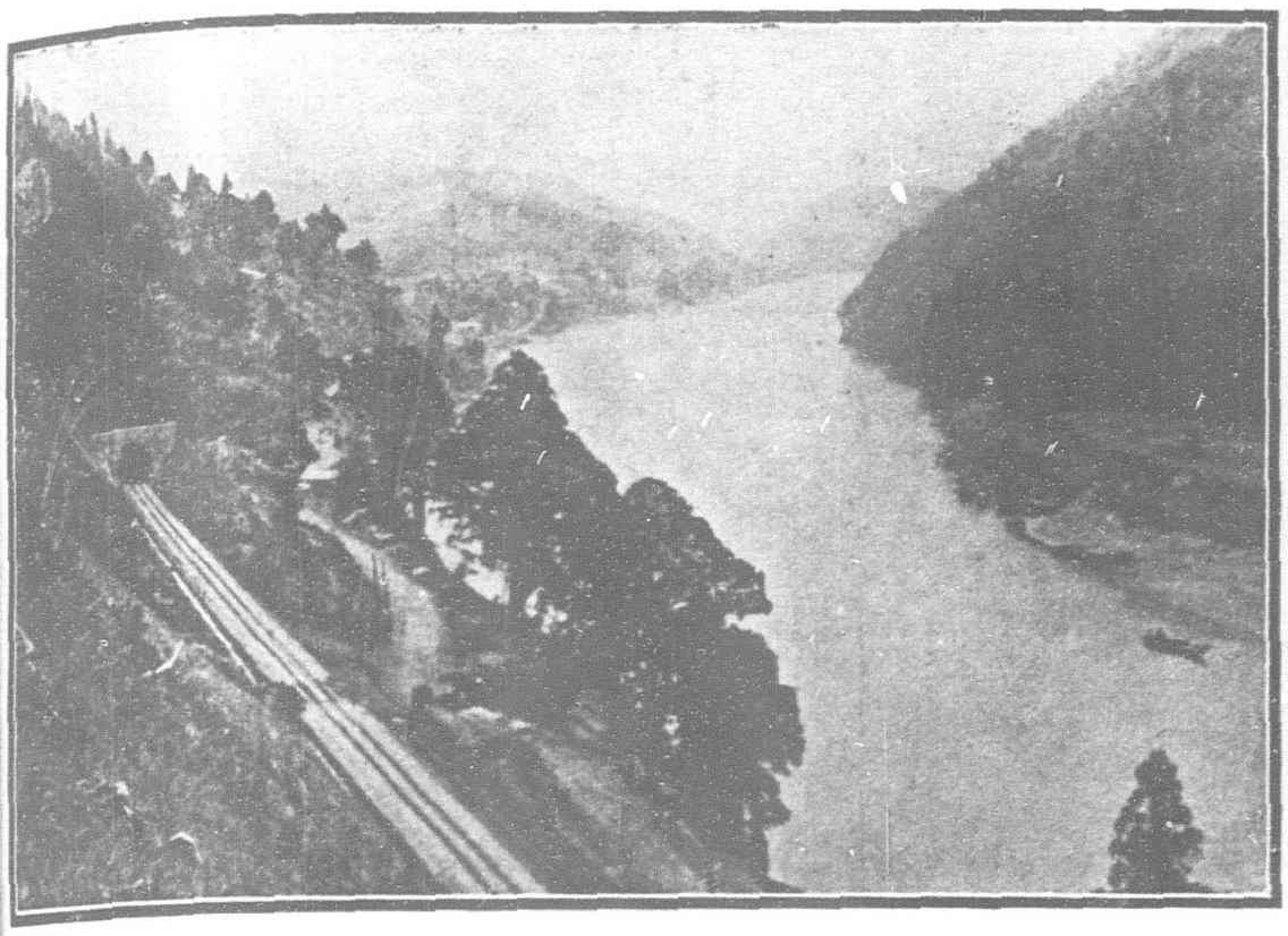
Locomotive Working

During the year under review, locomotive mileage totalled 69,250,350 miles (inclusive of the figures of steam motor cars), vehicle mileage 1,220,367,627 miles, the amount of coal consumed for running purposes 3,014,371,898 *kin* (inclusive of 16,856,130 *kin* of liquid fuel as converted at 1 *sho* of oil=5.4 *kin*) representing 9,149.847 yen in value, while the amount of oil consumed aggregated 16,293 *koku* representing 340,949 yen in value. Compared with the preceding year's figures, these items show an increase of 506,214 miles in locomotive mileage, of 7,540,451 miles in vehicle mileage, of 104,207,746 *kin* in the amount of coal representing 1,446,900 yen in value, and of 154 *koku* in the volume of oil consumed, while the value of the last mentioned item showed a decrease of 8,005 yen. As regards the average of the foregoing items per 100 locomotive miles, the coal works out to 4,353 *kin* representing 13,213 yen, an increase of 120 *kin* or 2.8 per cent. in amount and of 2.008 yen or 17.9 per cent. in value, and oil comes to .0235 *koku* representing .492 yen, with no variation in amount and a decrease of .016 yen or 3.1 per cent. in value against the preceding year, while the amount of coal per 1000 vehicle miles works out to 2,470 *kin* representing 7.498 yen in value, an increase of 71 *kin* or 3 per cent. in amount and 1.147 yen or 18.1 per cent. in value. The increase in the amount of coal per 100 locomotive miles is accounted for by the gain in the average weight of the locomotive stock, while the increase in the average per 1000 vehicle miles is no doubt due to the increased proportion of the passenger train miles to the total train mileage and the decrease in the number of vehicles per train, but on the other hand it is to a certain extent attributable to the use of coal of such kinds as require comparatively large quantities. Then, the rise of the coal market is responsible for the substantial advance in the value of the fuel.

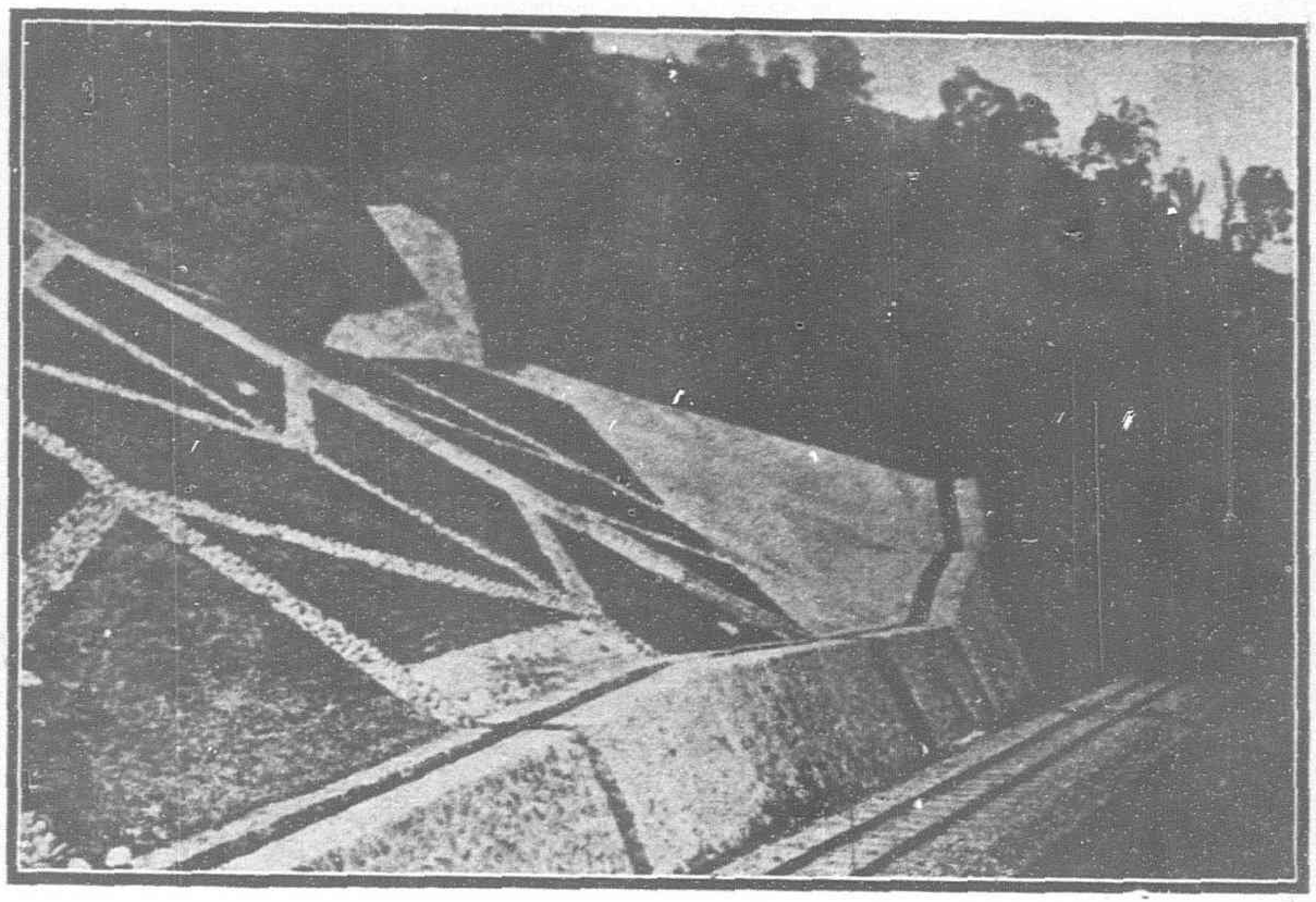
Statistics of the Imperial Government Railways for the Year Ending March 31st, 1916

(Compared with the two preceding years)

Item		1915-1916	1914-1915	1913-1914
Open mileage	Route mile (*m. ch.*)	5,756.76	5,686,26	5,470.64
	Track mile (*m, ch.*)	8,840.14	8,611.51	8,200.68
No. of Stations		1,630	1,604	1,529
Locomotives	Tank	1.254	1,259	1,248
	Tender	1,425	1,352	1,252
	Total	2,679	2,611	2,500
Passenger Carriages	4-wheeled	4,110	4,279	4,245
	Bogie	2,736	2,414	2,208
	Total	6,836	6,693	6,453
Goods Wagons	Covered	20,295	20,535	19,726
	Open	23,297	23,167	22,979
	Total	43,592	43,702	42,705
No. of Passengers carried		172,290,045	166,092,421	167,773,143
No. of Passengers carried one mile		3,856,536,966	3,623,743,236	3,690,964,619
Tonnage of Goods hauled		35,800,664	35,272,875	36,348,362
Tonnage of Goods hauled one mlle		3,309,518,677	2,982,798,481	3,053,852,638
Traffic Receipts (yen)	Coaching	57,282,341	54,671,971	55,975,342
	Goods Wagon	57,043,485	51,750,496	53,368,932
	Shipping	2,417,722	2,244,105	2,240,842
	Total	116,743,548	108,666,572	111,585,116
No. of Passengers carried per day per mile		1,858	1.795	1,909
Passenger Earnings per mile per passenger (yen)		.0132	.0138	.0139
Coaching Receipts per day per mile (yen)		27,60	27.09	28.95
Tonnage of Goods per day per mile		1,579	1,464	1,566
Goods Earnings per ton per mile (yen)		.0171	.0172	.0174
Goods Wagon Receipts per day per mile (yen)		27.22	25.40	27,30
Traffic Receipt per day per mile (yen)		54.52	52.20	56.01
Train Mileage		59,330,482	57,378,867	57,402,803
Average No. of Vehicles coupled per train		19.4	18.7	18,9
Vehicle Mileage	Passenger Carriages	374,625,651	355,101,502	345,223,815
	Goods Wagon	776,732,616	715,924,526	736,984.397
	Total	1,151,358,267	1,071,026,028	1,082,208,212
Locomotive Mileage		7,266,412	69,137,394	68,664,112
Shipping	Nautical Mileage of Lines worked	218.3	218.3	218.3
	No. of Ships in service	42	42	35
	Gross Tonnage	19,813.12	21,515,82	19,640.05
	No. of Passengers carried	2,332,318	2,163,202	2,193,979
	Earnings from Passengers (yen)	1,222,381	1,163,632	1,213,866
	Tonnage of Cargo	914,635	755,030	666,631
	Earnings from Cargo (yen)	1,022,690	921,429	875,082
Works	No. of Workshops	23	23	24
	No. of Workmen and Labourers	13,172	14,991	15,918
	Average Wages paid per day (yen)	9,753	10,273	11,186
	Average Wages paid per day per capita (yen)	.709	.707	.710
Revenue Account	Traffic Receipts (yen)	102,212,355	112,169,616	113,477,055
	Working Expenses (yen)	55,601,684	57,178,286	54,551,246
	Profit (yen)	64,610,671	54,991,330	58,925,809
Capital Outlay	Construction Expenses (yen)	9,601,215	16,301,375	18,686,241
	Improvement Expenses (yen)	20,073,152	22,230,487	22,591,407
	Additional Expenses (yen)	2,256,354	3,362,088	2,617,392
Working Expenses analysed	Maintenance Expenses (yen)	12,542,683	13,084,922	12,624,686
	Transportation Expenses (yen)	15,752,209	16,794,654	14,892.049
	Traffic Expenses (yen)	15,681,342	15,628,158	14,979,459
	General Expenses Maintenance of Equipment, Hotels, Shipping, etc (yen)	11,624,450	11,670,551	12,055,051
Capital (yen)		1,050,386,964	1,006.923,089	973,091,499
Staff	Officers, Directors & Secretaries	154	152	142
	Engineers	316	322	308
	Clerks	4,675	4,569	4,520
	Assistant Engineers	2,190	2,140	2,175
	Railway Foremen	784	687	104,930
	Employees of "*koin*" class	39	29,432	—
	Employees of "*yonin*" class	29,201	77,664	—
	Total	74,782	114,966	112.087
Relief Association	Brought over from last year	3,125,363	2,467,123.69	1,982,131.94
	Revenue	1,219,090	1,198,687.12	1,095,865.35
	Disbursements	493.008	540,447.74	610,873.60
	Carried forward to next year	3,851,445	3,125,363.07	2,467,123.69



APPROACHES TO THE TAKAYA TUNNEL



PROTECTION WORK OF TAKAYA TUNNEL APPROACH

Transportation expenses required during the year under review totalled 16,794,654 yen, an increase of 1,902,605 yen as compared with the preceding year.

Rolling Stock

Rolling stock returns existing at the end of the year under review comprised 2,599 locomotives, 12 electric locomotives, 6 Imperial carriages, 6,369 passenger carriages, 124 electric trams and 43,702 goods wagons, showing an increase over the preceding year of 111 locomotives, 2 Imperial carriages, 206 passenger carriages, 38 electric trams and 997 goods wagons.

During the year under review 7,619,207 yen were expended upon the maintenance of rolling stock, of which 3,613,496 yen were claimed by the locomotives, 36,011 yen by the electric locomotives, 1,468,421 yen by the passenger carriages, 88,998 yen by the electric trams, 2,024,995 yen by the goods wagons. Compared with the preceding year the locomotive expenses decreased by 112,475 yen, the electric locomotives by 20,400 yen, the carriages by 8,655 yen, while the electric trams expenses increased by 32,326 yen and the wagons by 60,333 yen, the total being a decrease of 44,774 yen. The expenses per unit of equipment worked out to 1,443 yen (or a decrease of 107 yen) for the locomotives, 3,001 yen (or a decrease of 1,700 yen) for the electric locomotives, 253 yen (or a decrease of 13 yen) for the passenger carriages, 1,112 yen (or an increase of 385 yen) for the electric trams, 48 yen for the goods wagons. The remarkable increase on the head of electric trams is accounted for by the provision of a large number of bogie cars which required a proportionately larger amount of maintenance expenses than did the 4-wheel stock superseded thereby. On the other hand, the sum expended upon the betterment and provision of rolling stock aggregated 490,506 yen charged to the improvement expenses and 120,589 yen charged to the additional expenses, while 1,000,105 yen were appropriated from the depreciation (reserve account) fund.

Electricity

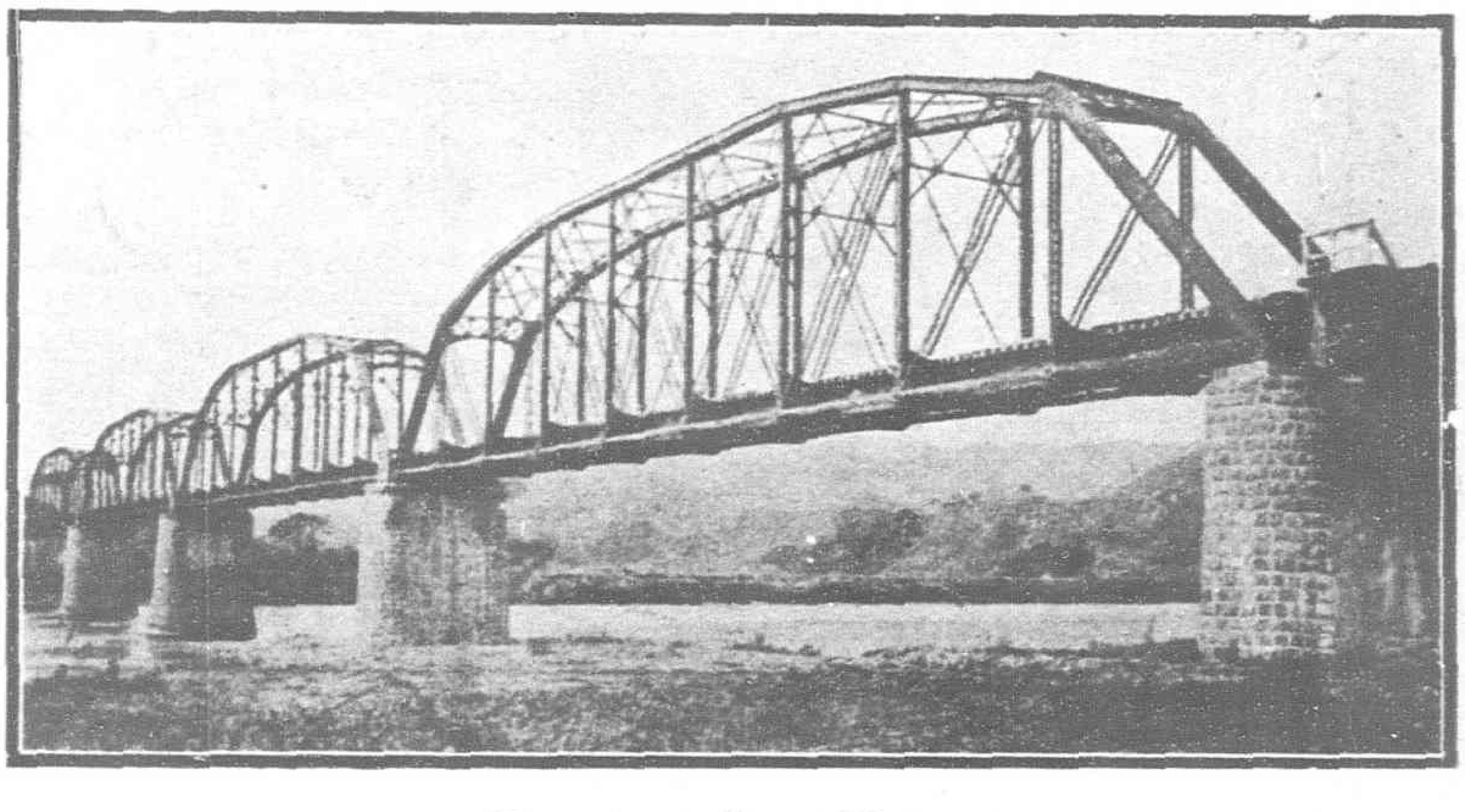
The number of stations open to telegraph service was 1,530, of which 905 were equipped for the acceptance of public messages, while the number of messages dealt with amounted to 48,276,062, including 7,009,571 public telegrams for which the Railways received as their share 253,580 yen or the average of 280,199 yen per station.

The length of electric communication lines extended 6,219 miles and communication wires 73,935 miles with 2,134 sets of telegraph, 10,529 sets of telephone and 3,360 sets of block instruments. The total length of power cables measured 388 miles and the wire length 1,466 miles, while there were 72 prime motors developing 24,633 H.P., 76 generators representing 16,499 K.W. The motor stock comprised 523 motors (7,016 K.W.) for power supply purposes, 422 (29,692 H.P.) for the running of 24 electric trams, 24 (7,920 H.P.) for the running of 12 electric locomotives. The electric lighting apparatus comprised 65,220 glow lamps (3,257 K.W.) and 511 arc lamps (293 K.W.), besides 30,869 glow lamps fitted in the carriages.

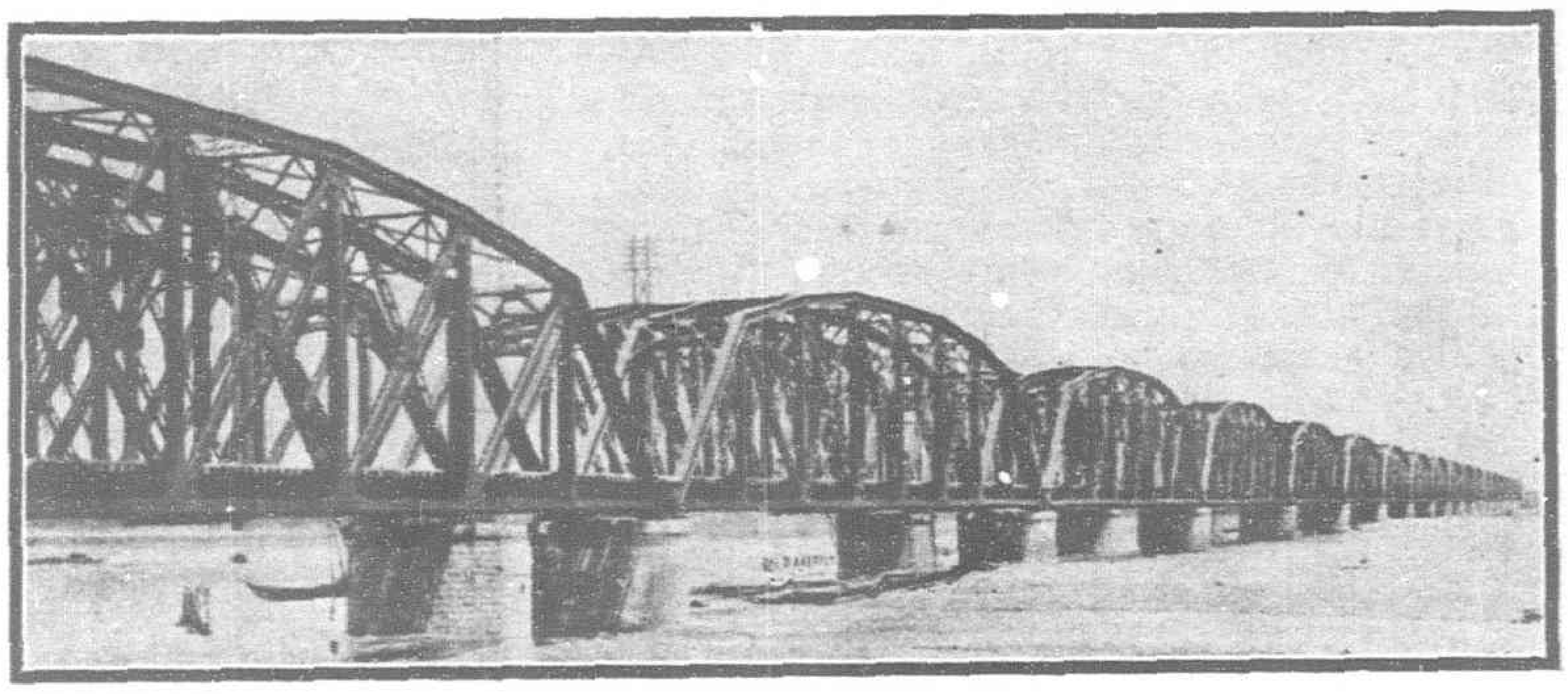
The current generated came to 15,046,519 K.W.H. and that transormed to 7,972,714 K.W.H. The mileage travelled by electric trams otalled 5,399,384 miles with 5,955,819 K.W.H. consumed for the running urposes and the electric locomotive mileage 136,409 miles with the current onsumed to the amount of 2,549,124 K.W.H.

Finance

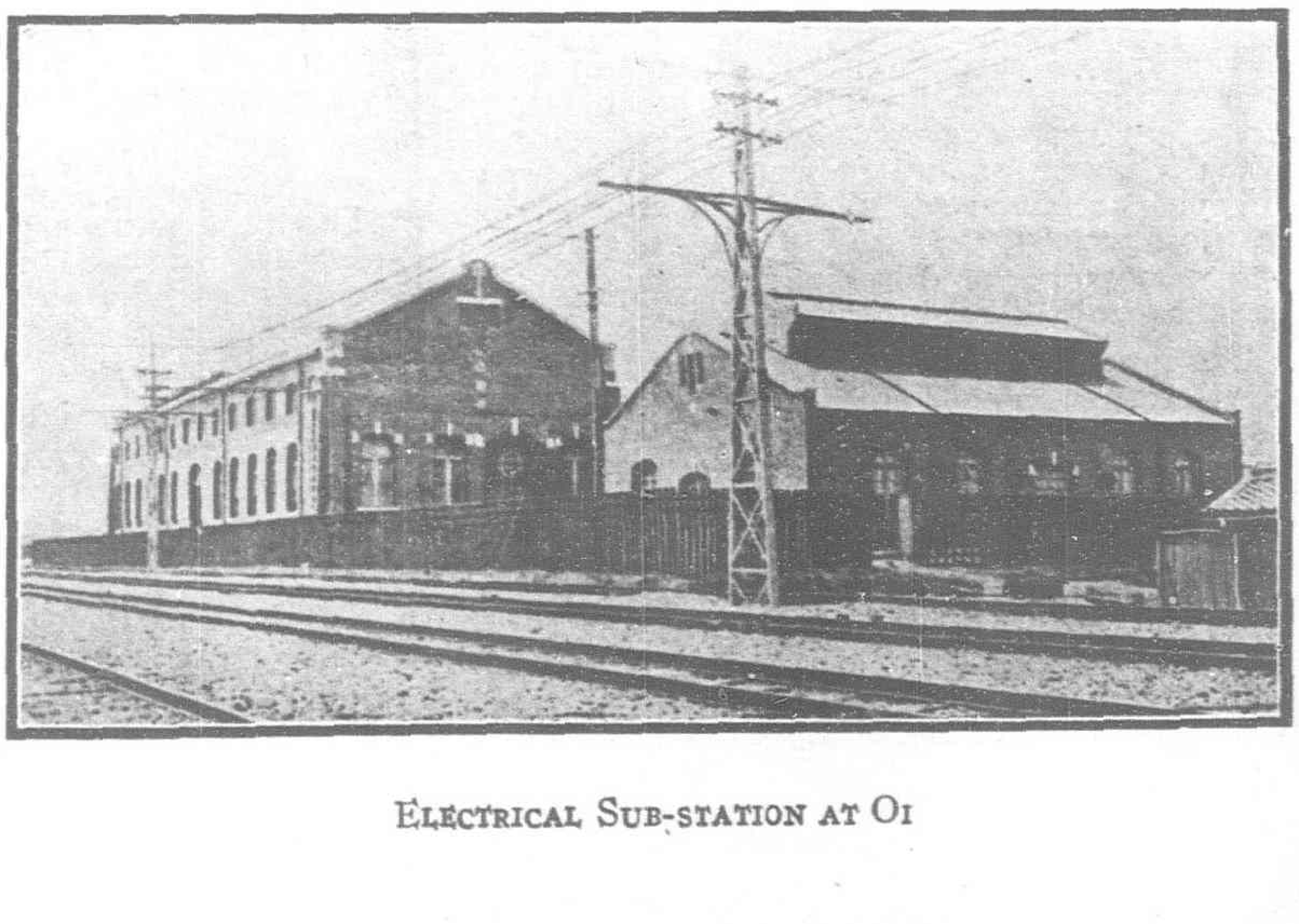
The revenue account for the year under review gives 116,276,279 yen or revenue from operation, 1,322,428 yen for the balance of the light ailway subsidies, 1,010,000 yen for the appropriation from the Reserve ccount, and 118,608,707 yen for the total, while the expenditure stands t 102,443,772 yen consisting of 102,033,713 yen for the expenses for operaion and 410,059 yen for the subsidies to light railways and the balance in he foregoing item to the amount of 1,912,369 yen which are transferrable o the next year's account, leaving a surplus of 14,252,567 yen. After urther deducting therefrom light railway subsidies, rebates and



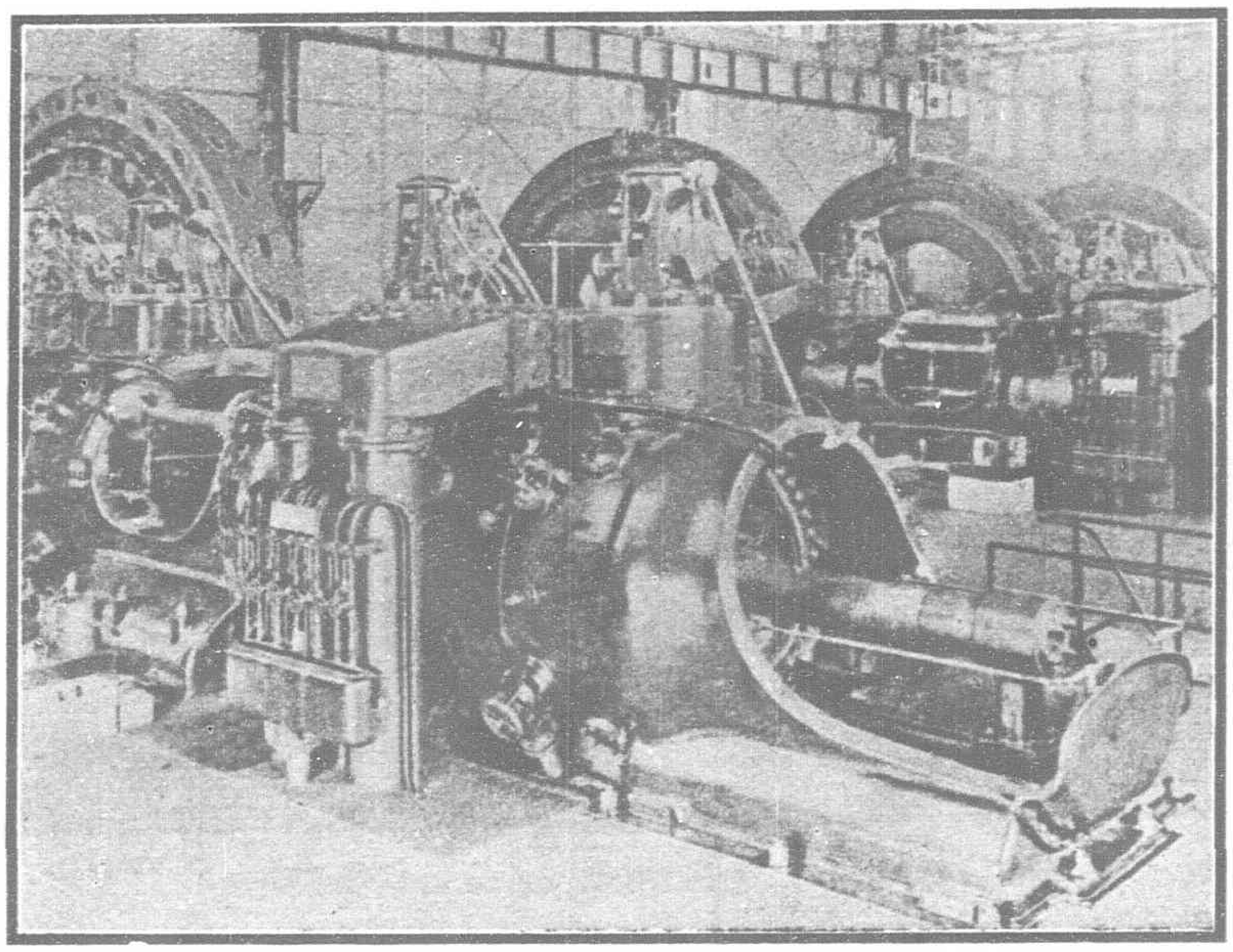
BRIDGE OVER RIVER MOGAMI



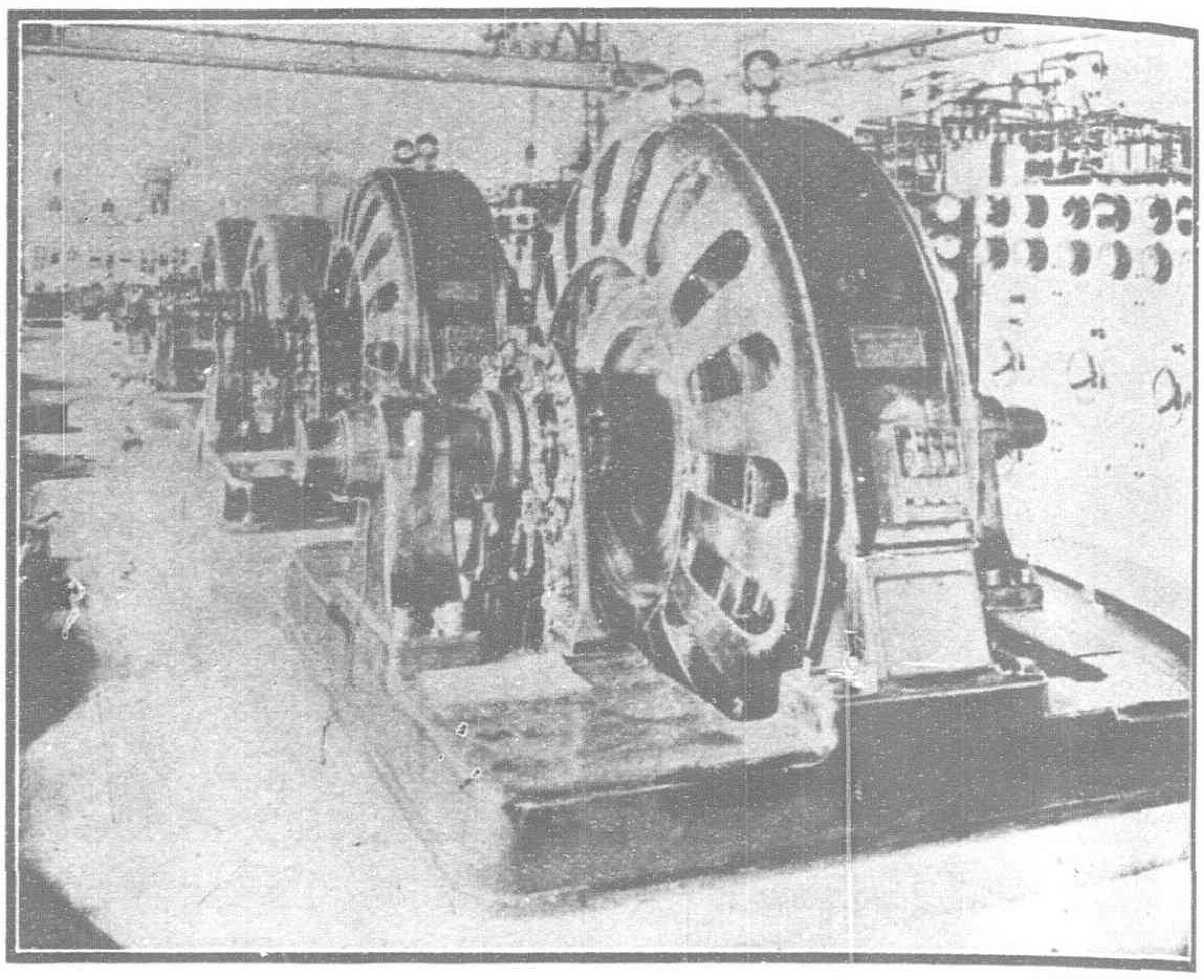
DOUBLE BRIDGE AT TENRYUGAWA



ELECTRICAL SUB-STATION AT OI



YAGUCHI POWER STATION



GENERATOR ROOM OF EIRAKUCHO STATION

advances, track supervision and surveying expenses, additional expenses and interest charges, there are left 112.169,616 yen for receipts and 57,178,286 yen for expenses, netting a profit of 54,991,330 yen. Compared with the preceding year's figures, the receipts decreased by 1,307,439 yen, the expenses increased by 2,627,040 yen and the profit decreased by 3,934,479 yen. The percentage of expenses to receipts from operation stands at 51 per cent., being an increase of 2·9 per cent. as compared with the preceding year.

In the capital account the revenue stands at 79,413.573 yen consisting of 33.116,763 yen for railway capital revenue and 46,296,810 yen for the receipts on the railway stores and workshop account, while the expenditure totalled 85,010,391 yen comprising 38,531,861 yen for the construction and improvement expenditure and 46,478,530 yen for the stores and workshop account, leaving a surplus of 5,596,818 yen. When added to by 7,529,222 yen for the construction and improvement expenditure and 634,156 yen for the surplus in the stores and workshop account brought over from last year's account, the total amounts to 2,114,124 yen for the former item and 452,436 yen for the latter which together represent the actual sum on the credit side of the capital account to be carried forward to the next year.

As regards the reserve fund account, the revenue for the year amounted to 3,109,310 yen and the expenditure to 1,010,000 yen, the balance of 2,099,310 yen being carried forward to the next year's account.

In the railways stores and workshop account, the profit amounted to 46,731,704 yen and the loss to 46,551,566 yen, leaving a credit balance of 180,138 yen.

The capital consolidated from the inception of the service down to the end of the preceding year aggregated 973,001,495 yen, to which were added 33,831,594 yen for the year under review, bringing the total to 1,006,923,089 yen of which 234.302,129 yen were represented by the special and 772,620,960 yen by the debenture capital.

The purchase of railway stores totalled 39,755,171 yen, consisting of 38,138,723 yen for home purchase and 1,616 448 yen for foreign supplies. Compared with the preceding year, the domestic supplies increased by 7,957,885 yen, but the foreign purchase decreased by 1,282,927 yen, the total increase being 6,673,958 yen.

Maintenance Work

In maintenance work numerous provisions were made where necessary throughout the system with a view to maintaining the tracks in efficient condition commensurate with the requirements of increasing traffic. To be particular, the re-sleepering, the repair of roadbeds, the repainting and re-rivetting of iron bridge girders, the replacement of worn-out rails and fastenings as well as the repair of buildings were assiduously attended to, while on the other hand extensive repairs and alterations were carried out to permanent way and buildings in connection with the additional and improvement works. Though a substantial sum was expended upon emergency and restoration works incidental to hurricanes and washaways which affected the North-Eastern, the Shin-Etsu and the Hokuroku Lines, and particularly wrought havoc upon the Tokaido Line, attention was paid to keeping down expenses as well as to ensuring the satisfactory repairs. Then, the remaining portion of the repair work due to the damage from the floods in the previous years was carried out in several parts of the system.

The amount of expenses debited to the maintenance work during the year was 13,084,922 yen, an increase of 460,236 yen over the preceding year.

Additional Work

In additional work, the policy of securing the facilities adequate to cope with the increasing traffic was consistently pursued, the efforts being directed to the increase of siding accommodation, the enlargement and repair of buildings and structures and also the betterment of signalling and other safety appliances, while various provisions were made in order to ensure better track and station accommodation. The amount of expenditure debited to the additional work was 3,362,088 yen, an increase of 744,696 yen over the preceding year.

New Stations

The new stations erected during the year comprised 2 on each of the North-Eastern and the Tokaido Line and one on the Sobu Line, while a new block station was built on the North-Eastern Line.

Permanent way improvement was carried out where necessary throughout the system, including the enlargement of space between track centres, the reduction of gradients and curves, the construction of new bridges and renewal thereof, the replacement of light rails by heavier metals, the strengthening of the tracks with additional sleepers, and improvement of the roadbeds, while the policy of replacing bridge girders by stronger metals and otherwise re-inforcing the girders was energetically pursued. The amount of expenditure on account of improvement work for the year was 22,230,487 yen, a decrease of 360,920 yen against the preceding year.

The length of lines open to traffic during the year was 5,686 miles 27 chains (inclusive of 62 miles 2 chains of the leased lines), being an increase of 215 miles 32 chains over the preceding year, while the length of all tracks extended 8,472 miles 29 chains, an increase of 161 miles 68 chains over the preceding year. The number of stations in service totalled 1,604, being 75 more than in the preceding year.

The total outlay on construction works during the year amounted to 16,301,375 yen, a decrease of 2,384,866 yen against the preceding year.

Railway Laboratory

In the Laboratory of the Railway Investigation Office, chemical experiments were carried out on cement, rubber, brick, oils, etc., and tests made on the strength of metals and other railway materials. Tests were also conducted on the consumption of fuel and the tractive power of locomotives. As regards the test on sleepers, it was found necessary to modify the volume of creosote to be injected into the timber.

Medical Treatment of Employees.

With the promulgation of Imperial Ordinance governing the medical treatment of railway employees in May, 1914, the provisions relative to medical treatment were struck off the Regulations of the Relief Association as a result of the arrangements having been made for defraying all such expenses out of the State Treasury. Simultaneously, the Hospital and dressing rooms run by the Relief Association were passed to the management of the Government. The medical treatment of railway employees is attended to in the Railway Hospital and the dressing rooms attached to the different workshops which have been passed to the direct management of the Imperial Government Railway. Besides, more than 400 railway physicians are detailed at the different localities throughout the system. During the year under review (from June, 1914) medical allowance granted to the railway employees aggregated 87,000 yen approximately, of which 58,298 yen were awarded to individual cases, and 29,000 yen paid in respect of the expenses for the Railway Hospital and dressing rooms.

TRAINING CHINESE ENGINEERS

The Engineering Society of China met on March 6, to hear a lecture prepared by Messrs. A. C. Clear, M. INST. C.E., and D. P. Griffith, M.A., M. INST. C. E. L , on the important subject of the Education and Training of Chinese Students in Engineering.

The principal difficulty appears to be, the capacity of the average student for absorbing information from text-books and failing to connect or apply such knowledge to practical purposes. This tendency is undoubtedly our greatest stumbling block. In addition to this a great number of students are premitted to take up engineering as a profession with little consideration as to whether they possess the necessary qualifications for the work. Regard as to fitness for, or interest in, engineering work should determine whether a student be allowed to proceed with his studies or not, and a student who shows no such qualifications should be discouraged or diverted to more congenial work.

Considerable emphasis must be laid on the necessity for balancing theory with practice during the Chinese student's training. The necessity for this will be immediately recognized by the following comparison of foreign and Chinese methods.

The foreign engineer imbibes engineering in practical form from childhood—very often he comes of an engineering family. He is surrounded by evidences of up-to-date methods and of development, he is fascinated by anything mechanical. Stories of great engineers belonging to his own country fire his imagination, and he wants to emulate their magnificent feats of engineering.

Now take the Chinese student,—the outcome probably of the literary class who have despised all outdoor work as derogatory, and who even have gone so far as to whiten their already pale faces more clearly to prove how little they went in the sunshine, and to lay emphasis on their student character. Long fingernails were also cultivated to prove there was no need for manual work.

More telling than this, from time immemorial in the history of Chinese education, memorizing has played an important, if not the most important, part in the system of education. This system of memorizing appears to have developed the Chinese mind in a marvellous manner so that whole pages of text-books and formulas can be committed to memory. Probably this trait is chiefly responsible for the brilliant results we so constantly see in examinations of Chinese students.

The Chinese boy has had none of the practical opportunities of the foreigner, it is therefore of the utmost importance to direct his education as much as possible on practical lines. He can assimilate theory easily owing to his marvellous memory. Memorizing does not however develop reasoning power, and it is necessary to lay special stress on the need for the development of reasoning power.

Chinese students should be put to school at a very early age, and attention devoted to awakening and cultivating their reasoning power in such a way that it dominates, but does not extinguish, memory. It is generally recognized that the cultivation and development of the reasoning faculty depend largely on the study of mathematics and this faculty being essential for engineering, mathematics should form the basis of study for an engineering career.

It is not intended to imply that other studies should be excluded. Prominence should be given to mathematics which bear directly on engineering from a practical point of view. There is a tendency to teach the higher mathematics which could only be useful in certain professions such as teaching, analytical work, etc. It is a tendency hard to check, as the majority of college professors who teach engineering are highly theoretical men with little, if any, practical knowledge of their subject.

A highly theoretical training must necessarily mirror itself in the minds of students who are thus led to consider it the acme of engineering practice. Herein lies one serious difficulty, and this must be overcome if we are to develop the type of men capable of dealing with the many problems constantly arising in practice.

In other professions, requiring the combination of theoretical and practical work, take surgery in the medical profession for instance, this is taught by demonstrators. It would appear equally necessary to have similar teachers in the latter courses of engineering training. This particularly with Chinese students who have not the practical associations and advantages of the foreign student engineer.

From the Institution of Civil Engineers alone over 2,000, out of a total membership of about 9,000, are serving in the fighting forces, and nearly 150 have already made the supreme sacrifice. In other countries similar conditions must prevail, so there should be little difficulty in future in obtaining the best of practical assistance during the college training.

It may not be out of place here to draw attention to the dearth of engineers that will ensue on the termination of this war. Those who have left this country are likely to be required for many years to come in repairing the ravages of war and carrying out those schemes of development nearer home, which are already being considered. It is, therefore, more than ever necessary for China to have her own carefully trained men to carry on her vast schemes of development.

There are yet very few Chinese engineers capable of filling responsible engineering positions, and it is with the desire to point this out and to endeavour to find a remedy that this paper is written.

The fact should be continually impressed upon students that their college training is but a preparation for the wider fields of practical knowledge in which they must be prepared to spend many years before being considered competent engineers. Leaving a student under the impression that a brilliant college career is the principal factor of success in the engineering world, is to condemn him to bitter disappointment, when amidst the practicalities of his profession, he begins to realize how small his practical knowledge is.

Up to the present no very definite future has been offered the student engineer in China. Too often he has been pitchforked in batches from various colleges under Government instructions on to railways or public works indiscriminately or again he depends on influence, and this too often means a high salary from the outset with false ideas of his own importance, and far from satisfactory results to himself, and to all with whom he comes in contact.

In other countries students are accepted by engineers as pupils, and it is rightly considered a privilege to be allowed to benefit by the training to be received under a competent engineer. This point has been overlooked in China and it is well worth the Government's attention.

The subject of this paper is one of considerable importance. The whole future of the country depends upon the soundness and adequacy of the training of the men who will in the future be largely responsible for the tremendous developments projected. It deserves our most careful attention, and it is hoped that by discussion or correspondence, the views expressed herein may be modified, extended or improved, so that the best system may be suggested for adoption to give China her own men trained on the best lines, and capable of carrying out honestly and well the innumerable possibilities of development that are needed to open up the vast wealth of the country.

Such papers as these, designed in the interests of the Chinese, cannot fail to attract the attention of the Government to the work being done by this Society, whose aim it is to promote the science and practice of engineering in all its branches.

MECHANICAL KNOWLEDGE NOT NEEDED TO DRIVE AN OVERLAND MODEL "75."

The average motor car owner of to-day has so little trouble with his engine that many drivers never even investigate that part of the mechanism which lies under the bonnet.

"I'll wager," said Mr. John N. Willys president of The Willys-Overland Company, while discussing the subject at the factory several days ago, "that the majority of people who own and drive motor cars cannot give a clear explanation of the meaning of transmission, differential or any one of the fifty other semi-technical terms connected with the mechanical construction of a motor car, which I might mention.

"While this is true in the majority of cases it does not follow that car owners are unappreciative of the many improvements that have been made.

"In the early days of the industry a man had to be an expert mechanic before he would venture far in his car. Today not only the head of the family but also his wife and children are very much at home at the wheel of a motor car.

"The first things which attract a prospective car buyer are price and general appearance. These being satisfactory, he asks for a demonstration to find out if the car is smooth running and comfortable to ride in. Then he takes the wheel and is surprised to learn how simple and easy it is to drive. Soon he has complete confidence in himself and becomes a confirmed motorist.

"Our smallest Overland, Model 75, is a good example of the type of car that is adding thousands to the ranks of motordom. Its price is within the reach of all. In appearance it compares favourably with cars selling at a much higher price. Although it is smaller than our other models, it affords ample room for five passengers.

"Its mechanical construction, also, is so perfect that the inner workings need cause no worry to any driver, no matter how unmechanical he or she may be."

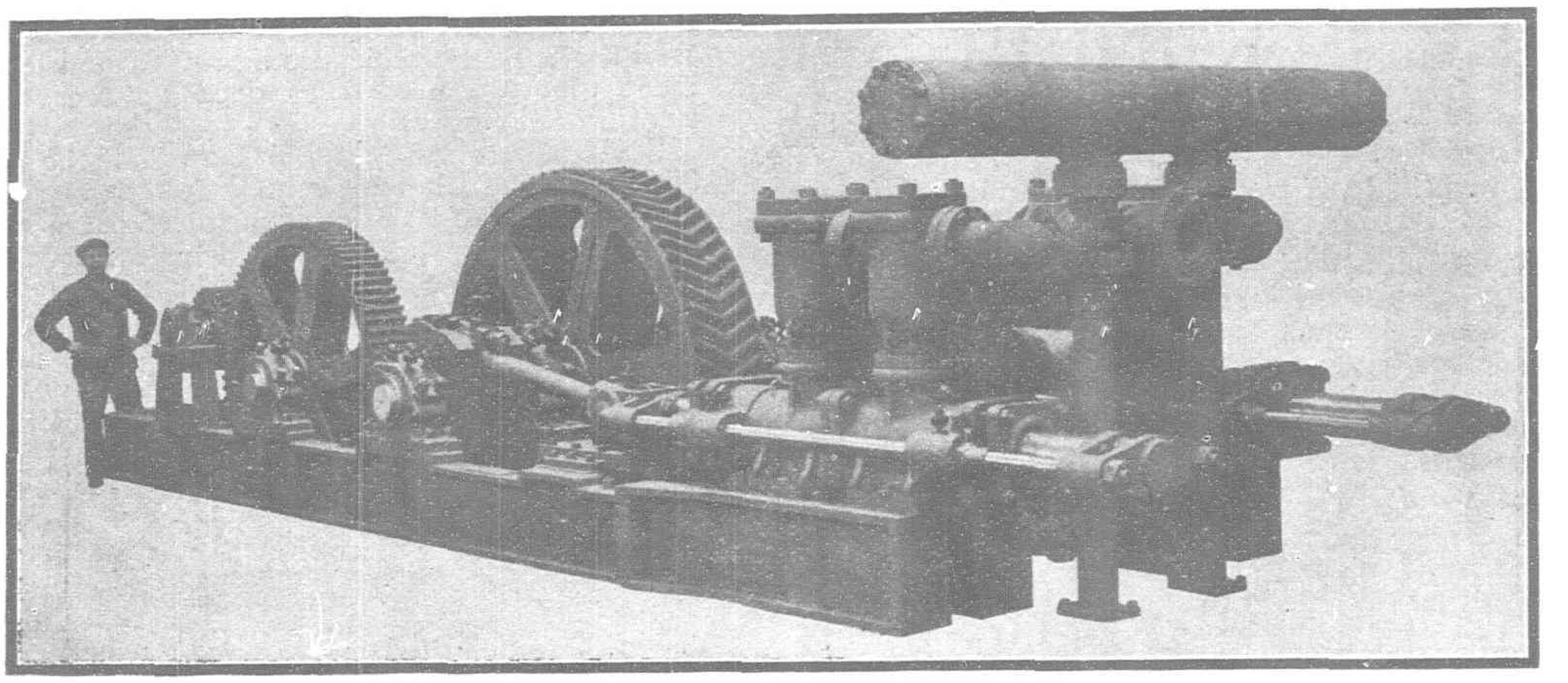
DUPONT PURCHASES MAROKENE CO.

The Du Pont Fabrikoid Company, with main offices at Wilmington, Delaware, has purchased the Marokene Company of Elizabeth, N. J. The Marokene Company manufactures a material similar to fabrikoid, which is used extensively by the automobile, carriage and upholstery industries.

Mr. R. B. Heyward who has been assistant superintendent of the Fabrikoid Company's Newburgh plant will become superintendent of the Marokene plant at Elizabeth, N. J. No changes will be made to the present staff of employees.

The purchaser will make thorough investigations in order to learn if any improvements can be made to the product and if possible will better same, thus upholding the Du Pont standard.

All the sales transactions of the Marokene Company will be under direction of the Wilmington office, and the attention Mr. J. K. Rodgers, Sales Manager of the Du Pont Fabrikoid Company.



TRESAVEAN (CORNWALL) MINE PUMP

THE TRESAVEAN MINE PUMP

An interesting example of an electrically-operated, reciprocating pump is shown in the annexed illustration. This pump was constructed by Messrs. Joseph Evans & Sons (Wolverhampton) Ltd., who are well known as makers of high class pumping machinery, and supplied by them to deal with the final unwatering and permanent pumping at the Tresavean Mine in Cornwall.

This mine produces copper and tin ore, and is now in full operation. It is a mine that was worked successfully many years ago, but, like a number of the Cornish mines, was shut down during the period when very low prices prevailed. The water that had to be taken out of the mine, especially at the lower depths, was exceedingly corrosive and destructive to the working parts of pumps and other appliances, in fact, the Turbine Centrifugal Pumps which were used in the early stage of the operations were very much affected, and as a result gave a good deal of trouble, and as the cost of fuel at these mines, which are far removed from collieries, is very high, it was thought that it would be desirable to install the permanent pumps of the most economical description. Therefore the reciprocating ram type of pump was chosen for the work, and has justified itself in this instance.

The pump referred to has four 7¼" diameter single-acting rams, coupled in pairs by crossheads and siderods, all 18" stroke. The rams, valves and other working parts of the pump are constructed of a special acid resisting bronze, which the makers have previously found very satisfactory for the same class of water, and proved to be so in this instance.

The gearing is double helical, half shrouded, machine moulded for the second motion, and machine cut straight teeth with a compressed paper pinion for the first motion drive, a flexible coupling and shaft running in oil lubricated bearings being provided. The pump is arranged so as to give three speeds of crank, namely (1) 20 r.p.m. (2) 27 r.p.m. (3) 35 r.p.m. thus enabling same to deal with the flow of water into the mine at various seasons of the year. The maximum quantity to be dealt with is 350 gallons per minute.

The motor originally provided was of 250 B.H.P. running at a maximum speed of 485 r.p.m. the current being 550 volts D.C. This motor was afterwards changed for an alternating current motor worked off the District Power Co's mains, as the proprietors of the mines arranged later on to take their supply from the Power Co. instead of generating their own current.

A number of tests were made of the pumping set and a very high efficiency was obtained. With everything in first class running order, it showed not less than 93% mechanical efficiency on the full duty, and well over 90% on the intermediate duty. No tests were taken on the minimum duty as at the time the tests were made, the yield of water at the mine was such that it was advisable, owing to the small amount of storage room then available, not to run on the low duty for any reasonable time.

An interesting feature in connection with the pump was the form of air vessel employed, this taking the place of the alleviator system of cushioning, which is often employed on very high lift pumps, but which has certain objections. Of course an ordinary air vessel would be of very little use without some efficient device for charging same, and the method employed in this instance was a displacement chamber connecting with the air vessel, with shut off and emptying cocks, etc. and a connection to the compressed air pipes used in the mine. Thus the displacement chamber was first of all filled with compressed air at about 60 to 70 lbs. per square inch pressure, then the air connection was shut off and the water connection to the air vessel on the pump opened; consequently, in a short while the water from the pumping main displaced the air in the displacement chamber, and the air so displaced was delivered into the air vessel, with the result that a perfect cushion was provided and shocks on the pump and delivery column were avoided, and a perfectly steady discharge of water resulted.

The displacer and air charging device in connection with this pump are not shown on the illustration, but the appliance is of simple construction, and there are no working or other parts liable to get out of order.

IRON AND STEEL IN 1916

Messrs. Wm. Jacks & Company's Review of the Iron and Steel Trades of Great Britain in 1916 has been received. It is preceded by a summary giving the general features of the year's business from which the following is taken:

The outstanding feature of the iron and steel trades during 1916 has been the steady tightening of Government control over these industries in order to meet the requirements of the war both for ourselves and our Allies.

Owing to the enormous expansion of these requirements and the consequent pressure upon the output, it became necessary to prohibit all exports to neutral countries, while the distribution of the production to home consumers and to the Allies has been strictly controlled.

The result has been to reduce almost to vanishing point the amount of pig iron and manufactured iron and steel available for the normal needs of commerce, while assuring adequate supplies to all engaged, directly or indirectly, in the fulfilment of war orders.

The following are some of the principal results and incidents of the past year:—

The output of pig iron in the North-East of England will, it is estimated, amount to 3,200,000 tons, as against 2,892,565 tons in 1915, an increase of 307,435 tons.

The shipments of pig iron amounted to 627,540 tons—18,167 tons coastwise and 609,373 tons abroad—as compared with 428,727 tons in 1915, an increase of 198,813 tons.

The shipments of manufactured iron and steel amounted to 374,051 tons—37,621 tons coastwise and 336,430 tons abroad—as compared with 506,979 tons in 1915, a decrease of 132,928 tons.

The output of Cleveland ironstone will, it is expected, amount to 4,250,000 tons, as against 4,746,000 tons in 1915, a reduction of 504,000 tons.

The imports of foreign ore into Middlesbrough have amounted to 2,070,323 tons, as compared with 1,763,984 tons, an increase of 306,339 tons.

Maximum home prices of Cleveland pig iron and hematite were fixed early in the year at 82s 6d and 122s 6d respectively, the former being raised in July to 87s 6d.

The average quoted rate for Cleveland No. 3 G.M.B. works out at about 94s 7.47d, this figure only applying to the home trade for the few weeks prior to the fixing of maximum prices. The realised price of Cleveland pig iron for 1916 is 82s 10.18d. The average quoted rate in 1915 was 65s 3.64d, and the realised price 60s 8d. The average export quotation for hematite was about 140s.

Wages in all departments of the industry show an increase over those of the previous year.

All the staple industries of Tees-side have been employed during the past year at the highest possible pressure, but great difficulties have been experienced both with regard to the supply of labour and of raw materials.

While very high prices have ruled, costs have also been on an unprecedented scale. Nevertheless, all the industries have enjoyed a year of signal prosperity which is reflected in the substantial dividends which the various firms have been able to pay, after making full provision for reserve and depreciation, and for the war taxes.

The new Year opens with all the works extremely busy, and with a prospect of great activity for many months to come.

On Tees-side and in the North generally, the question of trade after the war has been by no means neglected.

Although the transition from war to peace conditions—whenever it may come—must cause much temporary difficulty and disorganisation, there is a confident feeling that there will rapidly develop a huge demand for the products of this district in order to make good the devastation of war, and also to cover the vast arrears of commercial work which has been for so long a period held up.

Great developments have occurred in this district in the construction of new works and the extension and improvement of old plants, in order to meet war requirements, and these, it is hoped, will prove an important factor in enabling the iron and steel industries to meet the new and more strenuous competition which will arise.

Throughout the period of the war the relations of employers and employed on Tees-said have been consistently good, and it is earnestly to be hoped that in the coming time these good relations will be continued and strengthened. This, it is everywhere recognised, is a prime condition of future prosperity.

ENGINEERING, FINANCIAL AND INDUSTRIAL NEWS

CHRONOLOGY OF CHINESE RAILWAY BUILDING

The following is a chronological table prepared by the Chinese authorities to show the progress of railway construction in China:

1863: The construction of a railway line between Shanghai and Suchow was attempted by certain British residents at Shanghai.

1865: The Shanghai-Woosung line was promoted, which was completed in 1876, that is Kwangshu 2nd Year. In 1877 the rails were torn up and sent to Formosa.

1880: The Tangshan Mining Railway was constructed.

1888: The Ching-Feng (Peking-Mukden) Line reached Tientsin.

1892: Work on the Tayeh Railway was commenced.

1893: The Ching-Feng Line reached Shanhaikwan.

1896: The agreement for the Lungchow line and another for the Tien-Yueh Railway were concluded. Russia obtained a railway concession.

1897: The Belgian loan for the Ching-Han (Peking-Hankow) Railway was concluded and work was started.

1898: The Belgian Loan for the Ching-Han Line was amended. Great Britain obtained the concession for the Tao-Tsing (Tookou-Chinghua, Honan) Line. The railway between Shanghai and Woosung was reconstructed. The British loan for the Ching-Han Railway was concluded.

1899: The Cheng-Tai (Chengtingfu-Taiyuanfu, Shansi) Railway Loan was concluded, as well as the Tsin-Pu (Tientsin-Pukow) Railway Loan.

1901: The Chinese Eastern Railway was completed.

1903: The Tung-Pu (Tatung-Puchow, Shansi) Railway was promoted. the Shanghai-Ningpo Railway Loan was concluded, and the Canton-Fatshan section of the Canton-Hankow Railway was opened to traffic.

1904: The Hsiling line was completed; the Kiaochow Railway was also completed; the Fatshan Samshui Section on the Canton-Hankow line was opened to traffic.

1905: The Tao-Tsing line was constructed, which was purchased by the Government. The Ping-Chu Line was opened to traffic. The entire line of the Peking-Hankow Railway was completed. Russia ceded the southern portion of the Manchuria Railway to Japan.

1906: The Canton Railway Co. was organized. Work on the Wuhu-Canton Railway was started. Traffic on the Shanghai-Ningpo and the Chaochow-Swatow Railways was opened during the year.

1907: The Kowloon-Canton Railway and the Kirin-Changchun Railway Loans were concluded. The 2nd loan of the Tsin-Pu Railway was also concluded.

1909: The British loan for the Shanghai-Hangchow Railway was concluded. During the year, the Peking-Kalgan Railway was constructed, the concession for the Kiaochow-Ichow Line was recovered, the Nanking City Railway was completed, the Kaifeng-Loyang line was opened to traffic, and the loan for Hsinmintun-Mukden Railway was concluded.

1910: Work on the Ichang-Kweichow section on the Hankow-Szechuan Railway was commenced, the Tien-Yuen line was opened to traffic, the Loyang-Tungkwan Railway was completed, a section of the Nanhsun Railway was also opened to traffic, the loan repurchasing the Peking-Hankow line was concluded, the 3rd Tsin-Pu Railway Loan was also concluded, the line having reached Taian during the year, and a section of the Canton-Kowloon line was completed, while the Changchow-Amoy Railway reached Shih-i.

1911: A part of the Kai-Hai Railway was opened to traffic, the new Ching-Han Railway loan was concluded, the Changsha-Chuchow section on the Canton-Hankow Railway was completed, the Kowloon-Canton Railway was opened to traffic, and the railhead of the Southern Section of the Tsin-Pu Railway reached Likuo.

1912: The railhead of the Canton portion of the Canton-Hankow line was pushed to Lienkiangkow, the Kiukiang-Tehan section on the Nanhsun Railway was opened to traffic, the Tsin-Pu Railway was completed, the Hainan Railway loan was concluded, the Kirin-Changchun Railway was opened to traffic, and the Yenchow-Tsining Branch on the Tsin-Pu line was constructed.

1913: The Kalgan-Yangkao section of the Kalgan-Suiyuan Railway was opened to traffic, the An-Cheng Railway and Tungch'eng Railway loans were concluded, work on the Chang-Wang Railway was started, the agreement to construct 5 railways in Manchuria and Mongolia with Sino-Japanese capital was concluded, Russia demanded several railway concessions in North Manchuria, the Canton Railway and the Hupeh Kweichow Railway loans were concluded, and the Tsinan-Shunteh and Kaomi-Hanchuang Railway Agreements were signed.

1914: The Ning-Siang Railway agreement was concluded, the railhead of the Kalgan-Suiyuan Railway reached Tatung, whilst that of the Canton-Hankow line was pushed to Wushih.

1915: The railway round the city walls of Peking was opened to traffic, a section of the Nanshun Railway was completed, and the Changsha-Yochow section on the Canton-Hankow Railway was constructed.

1916: Work connecting the Shanghai-Ningpo and the Shanghai-Hangchow Railway was completed and the Wuchang-Puchi section on the Canton-Hankow line was also completed.

RAILWAYS

Ssupingkai Chengchiatun Railway.—The Ssupingkai Chengchiatun Railway loan amount is S. Y5,000,000, of which only S. Y3,500,000 is available for the construction work. This appropriation falls far short of the requirements, although the line is only 53 miles long, especially as the prices of steel and other materials have abnormally risen. Mr. Wu, the Director General of the Railway, has been in Peking negotiating with the Communications Authorities there to obtain additional funds to make up for the shortage. An official of the Railway who proceeded to Peking in company with the Director, returned recently and stated that Director Wu, assisted by Mr. Fujine (Chief Engineer), was negotiating with the Communications Ministry for an increase in the loan on the plea that the abnormal rise in price of materials and other causes had created a serious deficit in the funds. It was said that the authorities might have to reduce the Railway estimates for the current year. Mr. Fujine will inspect the rails at the steel works of the Hanyehping Co. with which the order for rails and accessories has been placed. As regards North Manchuria timber for the use of the Line, the purchase of which was entrusted to the North Manchuria Railway Co. Stores Section, its transportation by the Chinese Eastern Railway, under the existing shortage of rolling stock on the Harbin-Kwanchengtzu section, is progressing in a most unsatisfactory manner. As the authorities are eager to hurry the construction work, they are collecting building materials to complete the whole work before next Winter if possible. For financial reasons the bridge over the Liao at Sankiangkou is to be a temporary affair built of wood, and the necessary timber is being carted from Kirin.

Tramway Accidents 8.49 Per Million.—A table of casualties, prepared by the management of the Shanghai Tramways Company, shows that the concern has had a remarkable record for safety. Last year the trams carried 69,089,000 passengers and the casualty list was only 8.49 per million, whilst the cases of personal injury were only 3.97 per million. The full table follows:

	Total Passengers (thousand)	Total Number of Accidents per million passengers	Cases of personal injury per million passengers
1909	11,772	46.72	19.54
1910	18,751	33.92	18.82
1911	27,257	23.18	14.60
1912	40,734	18.24	10.85
1913	47,686	16.10	8.03
1914	55,647	13.62	6.27
1915	59,750	9.44	5.16
1916	69,089	8.49	3.97

This record shows a remarkable diminution both in the total number of accidents and in the number of cases of personal injury in relation to the passengers carried.

South Manchuria Ry. Rolling Stock.—About 3,200 goods cars now are in service on the South Manchuria Railway lines. This number is anything but adequate, judging from the quantity of goods being carried by the lines every year. It is said an appropriation for 200 new goods cars has been included in the company's estimates for the next fiscal year. The work of altering the passenger cars has been taken in hand and many third class cars are already in operation. The authorities plan the construction of some new 1st and 2nd class cars whilst pushing forward the alteration work as rapidly as possible. When the alterations are finished, the existing fare schedule is to be reorganized.

As the development of the Railway Area and the interior of South Manchuria in general advances, the 60 lb. rails laid under the Russian regime are now in process of replacement with a 80 lb. variety. In the present fiscal year much difficulty has been met with in obtaining a supply, and it has been only through the Japanese Government Steel Works, Edamitsu, that some substitution work could be done. Many of the 60 lb. rails failed to withstand the test of the severe cold of the Winter. The Company now proposes to complete the replacing of all the lighter rails in the course of the next fiscal year. A total length of about 48 miles will be required, mainly in the districts under the locomotive superintendents at Mukden and Tiehling.

Chinese Eastern Goods Cars.—Goods cars of the Chinese Eastern Railway which had been sent to European Russia and had failed to return to the Far East a short time ago totalled 6,000. Some days ago, the badly needed cars began to arrive at Harbin.

The report that the car shortage was broken reacted like magic on the produce market. At Anta Station, for instance, beans rose by 23 kopeks and at Harbin by 20 kopeks in a day.

Sino-Japanese Freight Agency.—A scheme is under way for a forwarding agency under joint Sino-Japanese management to supply the gap in the through goods traffic between the two countries. The agency plan is supported on the Chinese side by Mr. J. E. Foley, Traffic Manager of the Peking-Mukden Railway and by Mr. Yoshio Kinoshita, Councillor of the Imperial Government Railways, who have been nominated on the Executive Committee.

The plan was to be brought into effect simultaneously with the opening of the through goods traffic between the two countries.

Szechuen-Hankow Lines.—According to Chinese press reports work on the Szechuen-Hankow Railway has made much progress and rails have been laid for eighty Chinese miles between Hankow and Tsaitien. The work to Ichang will be completed in the Autumn of 1917.

Cost of Wu-Pu Section of Canton-Hankow Line.—Although the Wu-Pu section of the Canton-Hankow Railway has been opened for traffic, the report of all expenditure for wages, materials and construction work has not yet been furnished to the Board of Communications. Mr. Yen, Managing Director of the Railway Office, has now given orders to all Chinese and Foreign engineers in the various divisions to furnish reports with regard to the same. It is estimated that the whole amount expended for the line between Wuchang and Puchi will be over $19,000,000, which makes about $5,000 for every Chinese li or $12,500 a mile. It is reported that the great iron bridge at the North Gate of Puchi on the Canton-Hankow Railway has been completed and the rails already laid. In consequence of the coming tea season, the road between Yanglotung and Puchi will be very crowded, so the Railway Office has issued an order directing that the construction work should be completed immediately for the convenience of transporting tea. It is proposed to open the traffic business in May.

Kiukiang-Wuchang Project.—With a view to improve communications in the centre part of China, Mr. Chen Cho-tang, an ex-Taoyin of Szechuen, proposes to build a railway between Wuchang and Kiukiang. An application for registration has been forwarded to the Board of Communications and a copy of the proposals in 75 paragraphs had been sent to Tuchun H. E. Wang and the Kiang-Han Taoyin. Mr. Chen announces that surveying operations will be taken up at once as soon as approval has been obtained and share bonds will be issued at the same time.

Auto Road Project in Chekiang.—An automobile transportation scheme on a large scale is being promoted by the new Governor of Chekiang, Mr. Chi Yao-shan. His plan is to construct roads for motor-busses to penetrate all the towns of the province. The whole road system will be completed in 15 years, and the total cost will be $60,000,000 Mexican. One-fifteenth of the total capital will be raised every year. The provincial Government will appropriate $160,000 per annum for the purpose, while the district cities will be asked to contribute $1,000 each. The province is divided into four districts, and it is intended to complete the roads of each district in three years and five months. During the first period, the roads from Tunglu to Lanchi will be completed. When 60 li (20 miles) of the road are built, motor-busses will begin to operate. Each bus is to have the capacity of carrying 20 passengers. The fare will be 2 cents Mex. per li. It is estimated that when the road system is completed, sixty motor-busses will be operated and the annual profits will be approximately $1,000,000. The plan has been sanctioned by the Ministry of the Interior, and the Governor of Chekiang has appointed Mr. Wu Tzu-yin as director of the motor road Bureau to carry out the project.

Chefoo-Weihsien Railway.—At the initiative of the Chinese Guild, Chefoo, the long pending question of constructing a railway between Chefoo and Weihsien is reported to have been brought to a head. The construction work will be undertaken by the Chinese and is to be begun on May 1st. According to the Chinese press, the estimate submitted to the Peking Government for sanction by the promoters was $10,000,000, which amount has been increased by the Communications Office by $6,000,000.

The required funds are to be raised as under:—$3,200,000, a grant by the Communications Office, Peking. $8,000,000 to be contributed in equal shares by the eight Prefectures through which the new line will pass. $2,000,000 to be contributed by the remaining Prefectures in Shantung. $2,800,000 to be contributed by the other Provinces in China.

Japan's New Lines.—At an expenditure of 179,166,000 yen, the Japanese Railway Board is now contemplating the construction of twenty-eight new railway lines, with an aggregate length of 1,135 miles through many different parts of Japan. Among the principal lines for which construction works will soon be started are:

Between Morioka, Miyako and Yamada, 77 miles; Ikeda and Kotohira, 18 miles; Ikeda and Kanonji, 16 miles; Futsukaichi and Nagao, 15 miles; Kurume and Uyeki, 40 miles; Akita and Murakami, 124 miles; Murakami and Samukawa (seashore line), 18 miles; Murakami and Samukawa (mountain line), 19 miles; Kawanoye and Nishijyo, 25 miles; Yamada, Kochi and Susaki, 34 miles; Miyazaki and Sahaku, 88 miles; Nayori and Shimoyubetsu, 76 miles; Rumoye and Masuke, 9 miles; Katsuta and Omiya, 13 miles; Tottori and Chizu, 20 miles; Yoneko and Neame, 19 miles; Nobechi and Ominato, 38 miles; Yamagata and Sazawa, 19 miles; Onishifu and Chinai, 87 miles; Miyachi and Inukai, 36 miles; Oguchi and Awano, 12 miles; Omagari and Kadodate, 11 miles; Morioka and Hashiba, *16 miles; Yokote and Kurosawajiri, 39 miles;* Kuchia and Higashikuchia, 9 miles.

Manchurian Light Rail Scheme.—There is a scheme to build a light rail line over the three Manchurian Prefectures of Kaiyuan, Hsifeng, and Hailungcheng, but as it will require a stiff outlay to complete the whole of the proposed line the two Prefectures of Kaiyuan and Hsifeng are to be attended to first. About $140,000, is said to have already been raised for the purpose, and the necessary surveys of the proposed route have been finished by an engineer. Kaiyuan-Hsifeng line extends over 40 miles. There are three small rivers to be crossed, but the country through which the line runs is level on the whole, and little difficulty will be met with in construction work. An application for permission has been filed with the Communications Office, Peking, through the hands of Mil.-Commander Chang Tso-lin, at Mukden.

Meklong Railway.—At the recent meeting of the directors of the Meklong Railway Co., Ltd., it was decided to recommend to the shareholders to pay a dividend of only 3 per cent for the year. This is due largely to the great reduction in the fish carrying traffic, receipts being less under this heading alone by about 35,000 ticals, and in addition the passenger traffic has shown a falling off from the previous year by over 10,000 ticals.

Owing to the small dividend the Directors further recommended that no fees be paid them in respect to their services during the year under review, and that the bonus usually voted to the staff be omitted this year.

Accuses Tientsin-Pukow Railway.—Japanese press reports emanating from Tsingtau, charge that in order to absorb as much freight as possible from the Shantung Railway, the Tientsin-Pukow Railway Management are offering in private a discount of more than 20 percent for groundnuts and groundnut oil, as consigned through the Chinese forwarding agents. Mr. Chou Pao-san, who keeps his head office at Tsingtau and is one of the most extensive operators on the market, is mentioned as one of those who are sending goods to Shanghai via Pukow, but no accusation that he had received rebates was made in the Japanese newspapers.

Doubling Japan's Railway Tracks.—Expenditure for doubling the tracks of the Imperial Railways during next fiscal year, April, 1917-March, 1918, is fixed at 2,563,000 yen, Details are:—Ofuna-Yokosuka line, 378,000; Kuroiso-Chiraikawa line, 568,000 yen; Abiko-Torite line, 75,000 yen; Mito-Isohara line, 426,000 yen; Shinonoi-Nagano line, 293,000 yen; Himeji-Kamigori line, 284,000 yen; Oiwake-Shimizusawa line, 249,000 yen; Oiwake-Muroran line, 100 000 yen; and Akama-Hakata line, 189,000 yen.

Revenue of Japan's Railway.—The Revenue of the Railway Board for the 11 months ended February 28 amounted to 120,878,478 yen, of which 58,101,689 yen is freightage. Compared with the corresponding period last year, the figures show an increase of 6,333,180 yen in passenger fares and 11,432,952 yen in freight over a year ago. For the 11 months passengers numbered 171,325,806 and freight amounted to 36,577,160 tons, an increase of 20,332,215 persons and 4,733,604 tons, compared with the same period last year.

FINANCE

Chicago Financiers Confer on China Loan.—Vice-President Abbott of the continental and Commercial Bank of Chicago arrived in Japan late in March to meet Mr. Joy Morton, a director of the Bank who has been making investigations in China. Mr. Morton arrived at Shimonoseki on March 29. Mr. Abbott, after his conference with Mr. Morton, visited China and the Philippines.

The Continental and Commercial National Bank has negotiated the loan of $30,000,000 to the Chinese Government, of which the first portion, $5,000,000 has already been successfully placed on the American market in Chicago. Mr. Morton is senior member of Joy Morton and Company. He is president and director of the Morton Salt Company, one of the largest salt producing companies in America. He is also a director of the Chicago and Alton Railroad, Western Cold Storage Company, the Equitable Life Assurance Society of the United States, and the Continental and Commercial Trust and Savings Bank.

Philippine National Bank.—The annual meeting of stockholders of the Philippine National Bank held on March 6, was notable for the report for the year made by President Sam Ferguson. It indicated the healthy condition of the bank and spoke of the efforts being made in the United States by Dr. H. Parker Willis, former president of the bank, to secure the flotation of a bond issue whose proceeds would be used to develop Philippine industries. Messrs. Vicente Madrigal and Enrique Brias Roxas were named directors of the bank to succeed Venancio Concepcion, recently made vice president of the institution and Teodoro Yangco, named resident commissioner to the United States. They, with Major W.H. Anderson, Leon Rosenthal and Senator Vicente Singson Encarnacion, form the new directorate.

On January 31, 1917, the board placed the selling price of the stock of the bank at P110 per share, or 10 per cent above par, at which price a considerable number of subscriptions are now being received. That this price is considered reasonable is shown by the fact that no transfers have been recorded since the increase of price. The actual paid-in capital of the bank on the date of its inauguration was P3,286,451.04, which included P1,299,960, the total amount of agricultural loans taken over from the late agricultural bank of the Philippine government as part payment of the capital stock subscribed by the government. The total resources on the dates mentioned have been as follows:

On May 2, 1916	P10,947,930.90
On July 22, 1916	13,414,861.79
On December 31, 1916	50,786,476.53
On February 28, 1917	63,885,062.66

The following is a statement of the condition of the bank as of February 28, 1917:

Assets.

Loans and discounts		14,990,573.38
Unmatured foreign bills		4,629,808.13
U.S. government bonds		500,000.00
Philippine government bonds		286,000.00
Furniture and fixtures		71,655.32
Interest accrued receivable		410,960.49
Exchange for future delivery		2,804,060.40
Cash, viz:		
Due from branches	1,367,526.58	
Due from banks and bankers	5,487,969.03	
Due from foreign banks and bankers	14,786,982.99	
In vault and with treasurer of P.I.	15,756,278.78	37,398,757.38
Customers' liability L/C		3,792,247.56
		63,885,062.66

Liabilities.

Capital		6,229,870.00
Reserve fund	207,335.67	
Profit and loss	108,005.42	
Unearned discount	57,659.38	373,000.47
Reserved for taxes		20,000.00
Reserved for fidelity bonds		1,753.94
Circulation		502,000.00
Deposits—		
Insular government	34,143,529.06	
Individual accounts	4,789,331.98	
Due to banks	309,231.48	
Due to branches	531,069.30	
Secretary's checks	79,663.84	
Dividend checks	2,034.55	
Fixed deposits	10,761,777.15	50,616,367 36
Acceptance		5,272.28
Interest accrued payable		220,879.59
Exchange contracts		2,804,060.40
Letters of credit		3,094,588.62
		63,885,062.66

Japanese Capital Investments.—The calls for capital by Japanese banks and industrial enterprises to be made during March according to the Hypothec Bank of Japan, are 54,975,100 yen, of which 51,514,500 yen will be for company capital calls while 3,338,500 yen for bank capital calls. The payment of debentures is estimated at only 201,100 yen.

The principal calls for the month are:

	Yen
First Bank	1,612,500
Bank of Chosen	1,000,000
Nagoya Bank	216,000
Godo Cotton Spinning Co	4,000,000
Osaka Shosen Kaisha	6,187,500
South Manchuria Railway Co	4,000,000
Teikoku Beer Brewery Co	500,000
Osaka Dejima Exchange	400,000
Fuji Paper Mfg. Co	730,000
Inawashiro Water Power Co	1,050,000
Yokohama Electricity Co	860,000
Osaka Electric Light Co	1,800,000
Tainan Sugar Mfg. Co	410,000
Ishikawajima Shipyard Co	255,000
Osaka Zinc Industry Co	225,000
Kuhara Mining Co	10,000,000
Tokyo Stock Exchange	4,000,000
Japan Chemical Industry Co	135,000
Toyo Sugar Mgf. Co	1,600,000
Oji Paper Mgf. Co	600,000

The prospective calls for April are also estimated at 19,371,500 yen by the Hypothec Bank, but this will be increased later. It includes the calls of such important establishments as the Yokohama Specie Bank, the Bank of Chosen, the Kirin Beer Company, and others.

The total calls during February aggregated 83,024,400 yen. This is a decrease by 9,580,150 yen as compared with the previous month. However, the results of February and January, put together, will come up to 175,623,950 yen and present an increase of 11,562,302 yen. The lion's share of the capital thus called up went for manufacturing industries. Banks also absorbed larger funds than last year. Mining and lighting industries also called up more funds, but railways, shipping, and increase were depressed and their calls were on the decline. The principal calls during February were:

	Yen
Russian treasury bills	57,000,000
Anglo-Japanese Water Power Co	270,000
Teikoku Hemp Co	800,000
Muslin Spinning Co	500,000
Kobe Exchange	200,000
Tokyo Woollen Cloth Manufacturing Co	740,000
Asano Cement Co	1,500,000
Japan Paper Ware Co	125,000
Japan Hemp Co	600,000
Osaka Electrolytic Copper Manufacturing Co	250,000
Kwanso Acid and Alkali Works	2,712,500
Japan Marine Engineering Co	2,000,000

Philippine Railway Bonds Sold.—According to mail advices received in Manila on March 12, there has been a particularly brisk market for the $4,000,000 Philippine 4 per cent bonds issued by the Philippine government to finance the purchase of the Manila Railroad. It was stated by officials of the National City Company which purchased the bond issue from the Philippine government at 100.76, that practically all these bonds have been disposed of. The price of the few remaining bonds was advanced to 103.5.

U.S. and Japan to Make Loan to China.—Despatches reaching Tokio on March 10 stated that the London Conference of the five nations financial group had decided that the sum of the second reorganisation loan to China shall be Yen 100,000,000 and that the Japanese and the American groups would pay out Yen 50,000,000 respectively. The security will be the surplus of the salt gabelle and a portion of the land tax of China. The loan of Yen 12,000,000 for the dredging of the canals in China has been signed to be financed by Japan and American financiers. According to press reports in Tokyo under date of March 12 the Credit Mobile of Japan and the American International Corporation as well as the Siems-Carey Railway and Canal Co. had signed an agreement to finance the dredging of the Grand Canal of Shantung and Kiangsu. Now, based on the same agreement, it is reported that the negotiations with China to revise the original agreement of the American-China loan for the Grand Canal are in progress. The contents of the American-Japanese agreement are not known but it is reported that the loan for a sum of $6,000,000 will be divided equally between the American and the Japanese financiers respectively and the work will be entrusted to the Siems-Carey Co.

Loan to Canton.—It is reported in the Japanese press that the Bank of Taiwan has practically succeeded in making a contract with Mr. Chu, head of the Civil Administration of Canton, for a loan of 3,000,000 yen, although the report is not confirmed from Tokyo as yet. The new loan will be issued, it is said, partly for the purpose of redeeming the bank's old loans to the arsenal at Canton which amount to 1,200,000 Chinese dollars and partly for the purpose of replenishing the working capital of the arsenal. The loan will bear 8 per cent interest payable quarterly. The loan is not only guaranteed by the local government of Canton and the central government at Peking but is secured by the whole property of the arsenal although the creditor promises that it will not meddle with the internal operations of the arsenal. On this particular point, however, opinion is said to differ among the parties concerned and the formal agreement is not yet signed. The creditor is said to hold that the loan is not sufficiently secured by the arsenal's property which, in his opinion, is poorly maintained. He proposes to have some other government properties at Canton added to the security. This has met with the strong refusal of the Canton authorities. If the loan is concluded it is to be redeemed in two years.

SHIPPING

Mitsubishi Extending Docks.—A large extension of equipment is projected by the Mitsubishi Dockyards, Kobe. The company is to build four steamers from 2,000 to 6,000 tons within the year, and the construction of other vessels on its own account is also contemplated. To meet the increased demand for building capacity, the management has undertaken the setting up of two new stocks and a new floating dock of 20,000 tons capacity. When these projects are completed, the Mitsubishi yards in Kobe will be able to build about 60,000 tons a year.

The Mitsubishi Company at Nagasaki has announced that it will undertake the manufacture of torpedoes. Captain Hango Takematsu, on the reserve list of the Japanese navy, who was formerly in charge of the making of torpedoes at the Naval Arsenal at Yokosuka, will be at the head of the new department to be started at the Mitsubishi Dock. About six hundred hands will be employed in the new factory, and about one hundred of them are now acquiring the necessary technical knowledge at the naval arsenals at Kure, Saseho and Maizuru. Lieutenant-Commander Sendo and Dr. Ito, both experts formerly with the navy, will also be employed at the new factory.

Dutch Line for Japanese Ports.—The Rotterdam Lloyd, a Dutch shipping company, plans to open a regular trans-Pacific service with seven large liners, says a dispatch received by the Nippon Yusen Kaisha from its Singapore office. These liners will run from Batavia to San Francisco, touching at Singapore, Hongkong and Japanese ports. The first vessel on this line sailed from Singapore March 17. The Rotterdam Lloyd owns thirty-five steamers, with an aggregate tonnage of 183,200 tons, and now has fifty-six more steamers under construction. This company owns the Kwai, which recently put into Yokohama.

China Mail to Expand.—The president of the China Mail Steamship company in San Francisco has announced that $8,000,000, eight of the $10,000,000 secured through the recent increase in the capitalization of the company, will be devoted to the purchase of four or five new steamers that will be placed upon the trans-Pacific run.

The China Mail Steamship company was organized shortly after the decision of the Pacific Mail to abandon the Pacific trade subsequent to the passage of the LaFollette act, and up to the present it has been operating only the steamer China which was purchased by it from the Pacific Mail.

Kawasaki Dockyards New Departure.—The Kawasaki Dockyard Company, Kobe, will build a factory to manufacture steel plates at Kokura, Kyushu, on a site of 80,000 tsubo. A shipyard will be added later, says a Kobe telephone dispatch to the Tokyo Asahi.

600,000 Tons at Vladivostock.—Freight, chiefly war materials from Japan and America, held up at Vladivostock now totals 600,000 tons, owing to limited railway capacity. Though freight cars will shortly be increased, it will take a year to clear the goods accumulated at the port, says a Vladivostock message.

MINES

Seoul Mining Company.—During January, 1917, the mills of the Seoul Mining Co. treated 14,291 tons of ore and recovered Yen 236,900. Developments in the Prospecting Department have continued to improve during January and the opening up of new ore in the Tul Mi Chung Mine has shown a marked improvement over the past few months. The general outlook is in every way satisfactory, the mine officials state.

For the month of February, 1917, the mills treated 14,980 tons of ore and recovered Yen 242,773.23. At the Tul Mi Chung Mine a new ore body has been located in Crosscut Tunnel No. 1, the assay results obtained thus far being well above the average of the deposit. The possibilities of this proving of considerable extent are excellent. In the Prospecting Department Kung Kol, Tuck Kol, Nau Chauri and Tong Ahm continue to develop ore.

Kuhara Mining Company Plans.—One of the most prosperous of Japanese enterprises is the Kuhara Mining Company, of Osaka, which plans to increase its capital from 30,000,000 yen to 60,000,000 yen or to 100,000,000 yen in order to undertake further vast enterprises. In this connection Mr. Kuhara Fusanosuke, the President of the Company, recently made the following statement at a general meeting of shareholders:—"Operations at the Kabutoyama Mine, Korea, recently bought, were started in December last; next month, they will be in full swing. In the latter part of last year the Company secured the rights for exploiting oil wells all over North Borneo. When operations are started, the output will be liable to a tax of 2s. per ton, but as there are no other imposts of any kind, the enterprise has very bright prospects before it. In Borneo a large tract of land has also been bought which has unexpectedly been found to be exquisitely suited to the plantation of rubber and cocoanut trees. This agricultural enterprise the Company has decided to undertake, but a separate company might be established for the purpose. In this case subscriptions to its capital will be invited from the shareholders of the present Company.

"Further, the Company is now negotiating for the purchase of mines in Korea, Formosa, and Singapore, and early satisfactory settlements are expected in all of them, while the Company's experts are making investigations in Siberia, China, Manchuria, Korea, and the South Seas, with an eye to securing further fields of operations. In these circumstances, the Company stands in need of a larger capital, and particulars of the increase will be shortly announced."

Shortage of Zinc Ore in Japan.—Demands in Japan for zinc ore for refining purposes amount to about 150,000 tons a year. Against this demand, the domestic output of the ore amounts to not more than 40,000 tons, the deficit of 110,000 tons being made up by imports, principally from Australia and in a very small measure from China. Since the outbreak of the war, however, the zinc refining industry of Japan has undergone a great development. In consideration of its great lucrativeness, Japan's captains of industry and merchant princes, especially Messrs. Suzuki & Co., the Osaka Mining Company, and the Osaka Ayen Kogyo Kaisha, have turned their attention to the industry, and have projected undertakings, some of them already working at full blast. When all of these projects are completed, it is estimated that Japan's total requirements of zinc ore will amount to 350,000 or 360,000 tons.

While the demand is thus destined to undergo a great increase, no corresponding accession to the supply is expected, but rather a diminution. Australia's supplies to Japan are limited by Britain's demands, and now amount to 100,000 tons a year. While there are fears of a future decrease in the quantity importable from Australia, there can be no ground for expectation that it may be increased unless the war comes to an end. As to China's capacity for supply, this is quite a negligible quantity. In these circumstances, the authorities of the Department of Agriculture and Commerce, as well as the merchants and manufacturers concerned, are trying hard to discover a source of supply.

Angaur Island Phosphates.—On the 26th ultimo the Japanese Naval Department invited tenders for the sale of 4,000 tons of Angaur Island Phosphates. The whole lot was knocked down to the Dai Nippon Jinzo Hiryo (artificial fertiliser) Kaisha at 24.10 yen per ton. On the last occasion of sale by tender (January 26th), the purchase was secured by the Nippon Kagaku Kogyo Kaisha at 28.20 yen.

Yokohama Electric Co. Increases Capital.—The Yokohama Electric Company, at an extraordinary general meeting of shareholders, approved the proposal of increasing the capital from 7,500,00 yen to 15,000,000 yen. The new shares to be issued for the purpose, 150,000 in number, will all be taken up by the shareholders at a rate of one new share for one old share.

China's Coal Output.—According to the returns of the Agricultural and Commercial Department, so far as known, the amount of coal mined in China during last year was as follows: The output in Kiangsu, Chekiang, Fukien, Kweichow, Sinkiang and Special Administrative Districts, has not been fully investigated yet, and will be published later: Fengtien, 5,400,000 tons; Chihli, 2,160,000 tons; Shansi, 2,500,000 tons; Shantung, 932,000 tons; Kiangsi, 800,000 tons; Honan, 500,000 tons; Kwangtung, 50,000 tons; Yunnan, 30,000 tons; Kirin, 200,000 tons; Hupeh, 100,000 tons; Anhui, 30,000 tons; Hunan, 932,000 tons; Szechwan, 300,000 tons; Shensi, 50,000 tons; Kwangsi, 50,000 tons; Hailungkiang, 100,000 tons.

INDUSTRIAL

Japan's Insurance Business.—The life insurance policies of the 41 life insurance companies of Japan at the end of January, 1917, numbered 2,141,518 an increase of 4,902 in number and 5,255,568 yen in value as compared with the end of 1916.

Industrial Accidents in Tokyo.—With the great development of industry in Japan during the past year or two, the number of factory workers in Tokyo has greatly increased and it is at present estimated at nearly 140,000. It is perhaps inevitable in such circumstances that there should be an increase of accidents in the factories and the number of accidents in the Tokyo factories is put at about 1,000 a month.

Mr. Miyamoto, Director of the Industrial Bureau of the Metropolitan Police, says that the number of working people who were injured in the course of their work during October last was 1,050; 1,030 in November, and 1,200 in December, while in January the number suddenly increased to 2,000 of which 20 proved fatal. The accidents were due to various causes, such as carelessness on the part of workers, inadequate equipment in the factories, overwork, etc. The authorities are giving their attention to minimising the number of accidents by the introduction of improvements in the factories.